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NATURE STUDIED
WITH A VIEW
To PRESERVE AND RESTORE
HEALTH.

CONTAINING

An EXPLANATION of the ANIMAL OECONOMY.
The Nature and Cauſe of DISEASES and their CURE.
The Uncertainty and pernicious EFFECTS of PHYSIC.
The Inſufficiency of THEORY in the CURE of DISEASES.
NATURE proved to be the beſt PHYSICIAN.
How to continue and reſtore HEALTH by ſimple and eaſy METHODS.

WITH AN ACCOUNT
Of a moſt powerful and ſafe Deobſtruent MEDICINE,
of great Service in many DISEASES, particularly in ASTHMA'S, CONSUMPTIONS,
KING'S-EVIL, PALSY, and in the
worſt Kind of FEVERS, &c.

By WILLIAM SMITH, M. D.

Quam bene valere melius in vita nihil!

LONDON:
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TO THE

RIGHT HONOURABLE

LORD NORTH,

KNIGHT OF THE GARTER, &c. &c.

My Lord,

IT is the character of an exalted and perſpicacious mind, to ſurvey a wide circumference of knowledge, and diffuſe its attention among objects in appearance very little allied to one another: I therefore make no apology for inſcribing to your Lordſhip a medical treatiſe, in which no mention is made of the art of government, or the intereſts of Europe.

DEDICATION.

THE whole is only an aggregate of its parts. He that devotes days and nights to the happineſs of nations, has likewiſe his moments to ſpare for the welfare of individuals; and this little book, though it be uſeleſs amidſt the toils of ſtate and the ſtorms of faction, may not be unwelcome when your ſofter virtues take their turn to operate in private benignity and domeſtick tenderneſs.

POLITICAL happineſs can be ſuperſtructed only upon natural good. When pain or ſickneſs invade us, wiſe laws, an equal government, and lucrative commerce become empty ſounds. My ſtudies will not be uſeleſs if they ſhall extend the advantages of your Lordſhip's adminiſtration by enabling others to enjoy them: and ſtill more ſucceſsful ſhall I think them, if they can procure your Lordſhip a longer participation of that felicity to which your vigilance and fortitude have raiſed your country.

I am, with the utmoſt reſpect and attachment,

My Lord,

Your Lordſhip's moſt obedient

and moſt humble ſervant,

Carey Street, Lincoln's Inn,
Jan. 28, 1774.

WILLIAM SMITH.

CONTENTS.

CHAP. I.

Of Phyſic, - - Page 1

CHAP. II.

Of Man, - - - - 3

CHAP. III.

Irritation the Cauſe of Motion, - 18

CHAP. IV.

Of involuntary Motion or vegetable Life.—Of Nutrition, and the Progreſs of the Food through the various Circulations, 22

CHAP. V.

Of voluntary Motion or animal Life.—The general Cauſes of Diſeaſes accounted for by the Laws of Mechanics, and the different Affections of Matter and Motion, 55

CHAP. VI.

Theory in Phyſic not founded upon eſtabliſhed Principles. The pernicious Effects of much Medicine pointed out. Nature proved to be the beſt Phyſician, - - - - 76

CHAP. VII.

Man by Nature ſubject to few Diſeaſes. Irregularity the general Cauſe of Diſeaſes. Diſeaſes ſimple in their Nature. Obſtruction gives riſe and is itſelf the ſource of every Diſeaſe, proved by an enumeration of the Symptoms of each Complaint; to which is added a Method of Cure in each particular Caſe. An attempt to reduce Phyſic to certain eſtabliſhed Principles, - 117

CHAP. VIII.

The Cauſe of Diſeaſes more particularly conſidered and accounted for. How to preſerve and reſtore Health, by a natural and eaſy Method, and with little Medicine. An Account of a ſafe and very powerful Medicine, which opens the moſt minute Obſtructions, and effectually cures ſome of the moſt ſtubborn Diſeaſes, as Aſthma, Conſumption, King's-Evil, Palſy, Fevers of the worſt Kind, &c. 183

NATURE STUDIED
WITH A VIEW
To RESTORE AND PRESERVE
HEALTH.

CHAP. I.

Of Phyſic.

NO ſcience has for its end ſo noble an object as the art of phyſic: an art excellent above all others. Non eſt cenſus ſupera cenſum ſalutis corporis. Qua ratione pauper ſanus & fortis fœlicior eſt divite infirmo. What avail ample fortunes crowns and ſceptres to one languiſhing upon a bed of ſickneſs? King Pyrrhus prayed to God for health, which he preferred to vaſt empires, honours or victory. And Plato in *Gorgia* ſays, " Ex triplici corporis bono, ſanitate,

tate, forma & divitiis nulla fraude quæſitis, τὸ ὑγιαινειν ἄϱιςτον εἶναι." Aſk the ſick or dying what they would give to purchaſe health or life. They will readily anſwer you, THEIR ALL. The miſer lays bags at your feet. The king his ſceptre, and the voluptuous man will even part with his pleaſures to purchaſe health, the very eſſence of all worldly happineſs. Since then health is of the higheſt importance to mankind, it is certainly right to endeavour to know wherein it conſiſts, how it is to be loſt, and by what means to be reſtored.

CHAP. II.

Of Man.

MAN is a compound being made up of a material and immaterial part, and each part bears a dependence and connection upon the other. The different affections of matter and motion differently modulate the action of the material part; and the immaterial part or ſoul is capable of producing diverſe thoughts and motions in the ſyſtem of matter: ſo that the mind or ſoul cannot be in health without the body, or the body without the mind. "Sine animo corpus, & ſine corpore animus recte valere non poſſit. Tenta enim eſt inter utrumque ſocietas & ſympathia, ut ſuas virtutes & vitia ſibi invicem communicent." *Barthol. Præfat.* This is evident from obſervation in diſeaſes, eſpecially of the nervous kind. The ſoul, though impaſſible and immaterial, as it comes from the hand of its Creator, yet while it is ſhut up in the body, is ſubject to the affections

affections of matter. It is the fountain of all voluntary, and has power over the involuntary motions of the body in a ſtate of health. Yet when the body is diſeaſed or imperfectly formed, the operation of the ſoul is then irregular. So that a change in the one neceſſarily induces a proportionable change in the other. "Si gravi aliquo morbo delineatur corpus, vel gravis humoribus inficiatur, non aliter obſcurat lumen ipſum rationis & intellectus, quam denſa nubes ſolis radiis tenebras offundit."

We have only a faint and very imperfect idea of that immaterial ſubſtance called ſoul, abſtractedly conſidered. Sufficient it is for us to know that it acts and is acted upon by matter; by means of a ſubtile medium or animal æther contained in the nerves, which are diſperſed over the whole body, and come originally from the cerebrum or cerebellum by means of the medulla oblongata or medulla ſpinalis. They go out in bundles regularly diſpoſed in pairs, like ſo many diſtinct trunks, which are afterwards divided into branches, ramifications and filaments. The nerves of the medulla oblongata go out, for the moſt part, through the baſis of the cranium at holes ſituated according to their diſpoſition. Thoſe of the medulla ſpinalis paſs through the lateral foramina of all the vertebræ, and through the great anterior foramina of the os ſacrum. The nerves may be conſidered as a diſtinct ſyſtem of veſſels, whoſe principle of motion is the head. The animal æther is no doubt the moſt quick, active, and volatile of all imaginable fluids, otherwiſe it would be incapable of ſo quick and inſtantaneous motion, in order to determine the obedience of the muſcles to the immediate orders of the will. They are the ſwift meſſengers of the ſoul, and the inſtruments of ſenſation. This we perceive by cutting, dividing, or deſtroying a nerve; the part of the body, where it goes, immediately loſes all ſenſation, though the blood and fluids continue to circulate as before. And as the nerves are diſperſed over all the body, ſo every part of it we can touch has a ſenſe of feeling, called ſenſation, which the nerves, if ſo and ſo modulated, by the impulſe which their contained fluid receives from the application of body, and by the vibratory motion and colliſion of the machinulæ carry to the common ſenſorium or point where all the nerves terminate. The ſoul receives the impreſſion and forms the idea. There matter ends and thought begins. But that myſterious boundary where matter terminates and ſoul begins who can deſcribe? Nay we cannot comprehend how two ſubſtances, as ſoul and body, bearing ſo little an analogy to each other, can be ſo cloſely united together as we perceive them to be. But it is unqueſtionably true, that the ſoul has a power to put the body in motion, and it is equally certain, that the motions of the body excite thoughts or reflections in the ſoul. However, theſe two principles are not ſo blended or confounded one with the other as not to produce ſometimes quite different and independent operations. Metaphyſical concluſions do not in the leaſt depend upon the bodily motions, neither do the motions of the body abſolutely depend upon the ſoul; for the body has a power of acting without its immediate aſſiſtance. It can digeſt the food and turn it into chyle and nouriſhment without the aſſiſtance of reaſon, thought, or reflection, as long as the body preſerves its juſt ballance and ſtandard of health. The circulation of the blood is carried on without any aſſiſtance from the will. When a perſon is in a ſound ſleep, the blood circulates, the heart and lungs perform their functions, the ſtomach digeſts the food, the ſecretions go on regular, and the animal ſpirits move in the body as the other fluids do; yet the will can abſolutely determine their courſe and remove them into particular veſſels whenever it thinks proper, and finds occaſion for them.

Thus the God of nature hath formed us, and ordained that the material ſhould obey the direction of the immaterial part, et vice verſa. Thus the ſoul moves or affects matter, and matter the ſoul. And the mechanical ſyſtem of matter and ſpirit conſtitute that organized machine called body, which is preſerved in life and health from the harmony of its ſeveral parts.

THE union of intelligent beings to organized bodies is certainly a great myſtery. The Almighty, no doubt, had a view or deſign thereby to procure them a degree of happineſs, which, without ſuch union, they never would have had, in order, as it were, to make them amends for their narrow reach of penetration, and the little analogy there is between their and his divine nature. The material part of man is the object of our ſenſes, and therefore its nature may be inveſtigated by means of them.

WHEN God formed matter out of nothing, he aſſigned to it certain eſtabliſhed laws, and gave to the reſpective particles of it certain fixed and permanent configurations, which conſtitute the general principles of all mixed corporeal ſubſtances. But how the different combinations of thoſe reſpective atoms, whether ſimple or compound, when actuated by the general laws of motion, ſhould be capable of forming an organized body, is to me inconceivable. Therefore I am of opinion, that God, by a particular act of his will, formed or forms the original ſtamina of all things that have life, with ſuch a ſurpriſing texture and combination, that the joint motions of nature cannot diſſolve the union. If there be not a fixed unperiſhable ſomething in all organized bodies, which conſtitutes the identity of perſon, how comes it that a perſon, who has not ſeen me for ſeveral years, knows me again at firſt ſight? It cannot be denied, that the whole compoſition of the human body renews at certain times, therefore it cannot be aſſerted for truth and matter of fact, that thoſe that ſee me to day, ſee the identical ſelf or ſame perſon,

ſon, they ſaw ſeveral years ago; yet I am the ſame. This could not certainly be, if by my proper ſelf is meant no more than an aſſemblage of particles of matter which compoſe my body, ſeeing this matter is no more the ſame. If there be nothing fixed or ſteady in this compoſition, nothing can conſtitute its eſſence, for certainly whatever makes the eſſence of a being, ſubſiſts together with it, and cannot be loſt, unleſs ſuch a being is deſtroyed at the ſame time. If then my whole body is ſubject to a perpetual change, it cannot be that ſelf, the true and real eſſence. And as this continual revolution of particles, which inceſſantly flow from the body, and which are as conſtantly ſupplied by others, that occupy the ſame ſpace, take the ſame configurations, and anſwer the ſame ends as the others did, cannot be the work of chance; therefore there muſt be ſome fixed and permanent principle, which diſtributes thoſe new parts of matter and always diſpoſes them in ſuch order and uniformity. Otherwiſe men would change figure and mien at every inſtant, and could not be diſtinguiſhed from each other for any length of time. Every kind of vegetable we ſee requires a particular and ſpecific matter for its formation and nouriſhment, yea every part of the ſame plant doth ſo; for very many and different ingredients go to the compoſition of one individual plant. If, therefore the ſoil, in which any vegetable or ſeed is planted, contains all or moſt of the proper ingredients, and thoſe in a due quantity, it will grow and thrive. But if there be not ſo many corpuſcles, as are neceſſary for the conſtitution of the main and eſſential parts of the plant, it will not thrive at all; or if the particles be not in ſufficient plenty, then the plant will be ſtarved, and never come at its natural ſtature; and if there be any of the leſs neceſſary corpuſcles wanting, there will be ſome failure in the plant. It will be deficient in taſte, ſmell, colour, or virtue. And though a tract of land does not contain matter proper for the configuration of one particular kind of plant, yet it may of another. For it is impoſſible to imagine, that one uniform homogenious matter, having its principles or organical parts all of the ſame ſubſtance, conſiſtance, figure, magnitude and gravity, ſhould ever conſtitute bodies, ſo much unlike in all theſe reſpects, as vegetables of different kinds, and as the different parts of the ſame vegetable are. That one ſhould carry a milky, another a yellow, a third a red juice in its veins; one afford a fragrant, and another an offenſive ſmell; one a ſweet, another a bitter acrid taſte; one nouriſhing, another poiſonous; one purgative, another aſtringent; one rough, another ſmooth, and all ariſe from the ſame matter, is paſt belief, without ſuppoſing ſome permanent immutable principle in every diſtinct ſpecies of vegetables, which preſerves the diſtinct configuration of parts peculiar to each ſpecies, abſorbs the proper juices, and arranges them in due order. That fixed permanent principle in man conſtitutes his very eſſence, and properly ſpeaking is the man, and the fleſh and bulk which he acquires from nutrition is only appendages, wrappers, or bandages to it, and will, after death, diſſolve and go to earth from whence it came; but the eſſence or ſelf will remain unchangeable, till it appears at the general reſurrection.

In the air an univerſal ſpirit is floating, which penetrates every thing, and is itſelf the productive cauſe, and perhaps, even the very matter that gives birth to ſubſtances or bodies. This univerſal ſpirit is received into the body in a very plentiful manner, it is incorporated with the food we eat, contributes to our nutrition, ſupplies the waſte of the finer fluids, particularly the nervous, and aſſiſts in carrying on the circulation. Therefore we ſee how neceſſary it is to ſtudy a healthy ſituation, for the air is more or leſs nutritive according to the quality and quantity of the particles of matter it receives from other bodies.

'Tis not to be doubted that before the deluge the atmoſphere was purer and abounded more with univerſal ſpirit than it has ever ſince, which occaſioned man to live to a more advanced age. 'Tis even highly probable, that in the garden of Eden, the air was proportioned in ſuch a manner, and the vegetables were ſo pure, that man would there have recruited, by ſuch food and by reſpiration, whatever he may have loſt by perſpiration and every other excretion. Nay, that all kinds of vegetables were found there in ſuch perfection, by means of a vaſt quantity of this univerſal ſpirit, that nothing uſeleſs or ſuperfluous could ſteal into any part of the body, and therefore man would have for ever remained in a ſtate of immortality, had not certain paſſions diſturbed and hurt ſo happy a conſtitution. Our life depends upon perpetual motion, which exiſts no longer than the juſt counterpoize is ſupported. Such perpetuity is deſtroyed by too much or too little of any one thing. This was the caſe of the firſt man, who by fear, the ſudden attendant of his crime, loſt ſuch a happy ballance and became mortal. But his puniſhment did not reſt there. The Almighty turned him out of this earthly paradiſe, where the pureſt food would have ſaved him a great deal of trouble, a very ſmall matter would have ſufficed to ſupport him, and the earth every where produced all things in abundance; but God willed that his life ſhould become a burden to him, by obliging him to earn his bread with the ſweat of his brow; for which purpoſe he turned him out of the garden, and led him into places where the fruits of the earth were more ſcarce, and had leſs nouriſhment, therefore he wanted more of them than before, and had more trouble in gathering them. Yet it is probable, that the fruits of the earth afforded even then more nouriſhment than after the deluge, which made the primitive or firſt men live near a thouſand years. But the deluge brought about a terrible change all over the face of the earth. The univerſal ſpirit became ſcarce in the earth and air, the former accordingly produced with more difficulty, and whatever it produced, contained leſs nouriſhment. The groſſer particles of all kinds mixed with the more eſſential or purer ones, ſo that man did not live to ſo great an age as before. At the general reſurrection, we are told that the elements ſhall be diſſolved by heat; by means of that heat and fermentation there will probably be ſuch a vaſt quantity of univerſal ſpirit generated, as will be able in an inſtant to give a full and ſudden growth to our eſſence or firſt principle, and we ſhall perhaps retain very little of thoſe particles of matter, of which our bodies were compoſed before the grand cataſtrophe, or general diſſolution. And after the reſurrection, if we are to dwell in places where the air abounds with the univerſal ſpirit, we ſhall then have no occaſion for nouriſhment, as the ſame ſpirit which gave us growth, will be capable to ſupport us in the ſame ſtate of perfection, wherein, by its means, we are to be re-eſtabliſhed, without the help of any groſs food. Then we ſhall taſte the ſame food which angels at this time make uſe of.

As man is an organized body, and ſuſceptible of innumerable motions, ſome entirely dependent upon the will, others not ſo dependent, where the will has only a power of controul, ſo all his motions are the reſult of a ſtimulus upon the nerves. For the muſcular fibres of animals are ſo framed as to contract whenever a cauſe, proper to excite their action, is applied to them, or without ſuch application always to remain at reſt. This cauſe is either an effect of the will, or a ſtimulus of one kind or other. To the former is owing the voluntary motions peculiar to animals; to the latter, the vital ſpontaneous and involuntary, which all vegetables poſſeſs, and is performed in infants, idiots, and brutes of the loweſt order, in as perfect a manner as in the greateſt and wiſeſt philoſopher. The firſt conſtitutes the animal, the other the vegetable life of man,

CHAP. III.

Irritation the Cauſe of Motion.

BY means of the connecting medium or nervous fluid, which unites matter and ſpirit together, the various impreſſions made upon the ſeveral parts of the body, not only by external but internal cauſes, are tranſmitted to and perceived by the mind. When a ſtimulus is applied to the body it obſtructs the due and regular circulation of the nervous fluid, which regurgitates upon the mind, and thereby conveys a perception of pain, which the ſoul receiving, immediately directs a greater flow or influx of the nervous fluid or animal ſpirits to the affected part, in order to remove the offending matter, as is evident from external inflammations, and from experiments. For example, if you prick the heart of a frog, which is a muſcle, it is immediately thrown into convulſions; irritate the guts, and they are inſtantly thrown into preternatural contractions. If the obſtruction is great, then from the nature of obſtruction in all fluids, the nervous æther is more accumulated in that part, and the ſoul, receiving diſagreeable ſenſations from the offending matter, adds its influence by impelling the nervous fluid more forcibly to that part in order to remove the impediment. The conſequence of which is, the heart contracts more forcibly and at ſhorter intervals, the circulation is accelerated, and by the colliſion of the parts, the heat is increaſed. If the veſſels, by their convulſive throws, can diſengage themſelves of the ſtimulating and offending matter, then the dam is broke down, and the circulating fluid, before obſtructed, returns to its regular circulation. Then the ſoul receives no diſagreeable ſenſations, believes its tabernacle in ſafety, and therefore is at eaſe. If the obſtructed matter is not entirely removed, then the ſenſe of pain remains in proportion to the obſtruction. For pain may be eaſed, and partly removed, without diſlodging the offending matter. Thus a pain ariſes from a greater flow and obſtruction of the nervous fluid, to one particular place, than the laws of circulation admit of, ſo the other ſound parts of the body are, during that time, proportionably deprived of their due quantity. When you apply a ſtimulus to another part of the body, you then occaſion a pain in that part, and of courſe a greater flow of animal æther; the conſequence is, a derivation from the part firſt affected and a mitigation of the inflammation, the veſſels contract with leſs force, the circulation is not ſo rapid nor the heat ſo great, and the pain is divided, and thereby leſſened. As the mind receives diſagreeable ſenſations from two parts at once, it directs the nervous fluid equally to both. Thus we ſee the ſaying holds good, *Divide et impera*, one pain may be cured by inflicting another. And an obſtruction, inflammation, &c. may be removed by applying a ſtimulus to any other part of the body. Hence we ſee the uſe of bliſters, cataplaſms,

&c. in curing inflammations by cauſing a derivation. They are alſo of great uſe when applied to the inflamed part by increaſing the oſcillatory motion, and thereby aſſiſting the veſſels to throw off the offending matter and open the obſtructions.

Irritation is the cauſe of all motion in the animal machine; and as the voluntary motions of the body are conſtant, uniform, and regular, ſo the ſoul being accuſtomed to them, is unconcerned and intirely neglectful of them, and leaves matter to act by its own ſtated laws.

CHAP. IV.

Of involuntary Motion or vegetable Life. —Of Nutrition, and the Progreſs of the Food through the various Circulations.

NOW we will take a ſhort view of the involuntary motions of man, and ſee how he exiſts and is ſupported, which is done by means of the food he receives by the mouth.

THE continual waſte, which conſtant motion makes in the conſtitution, if there were not frequent and proper ſupplies, would ſoon wear out the body. The attrition and abraſion of the circulating fluids would quickly carry away the canals in which they circulate, if ſomething was not furniſhed and conveyed to them, ſuited to fill up the waſte and thereby ſupply what is waſhed off. A conſtant and regular ſupply is therefore abſolutely neceſſary to ſupport the animal machine.

Our food is bulky matter more or leſs compacted, and is received into the mouth, and there has its parts broken by the action and grinding of the teeth; in paſſing from the mouth it irritates the fauces, which pulls up the larynx, and os hyoides, and ſuffers it to enter the pharynx, then it contracts, and the larynx being ſhut, forces it into the oeſophagus, which having its nerves ſtimulated and its fibres ſtretched by the food and air in its deſcent, makes each ringlet of the tube contract itſelf, and thereby puſh on the food to the reſt till at laſt it arrives at the ſtomach, which is a great bag or reſervoir, of an oblong and incurvated figure, with two extremities called orifices, one large and one ſmall, like a crooked funnel. The firſt opening is a continuation of the oeſophagus, the other joins the inteſtinal canal, and is called the pylorus. On the concave ſide of the ſtomach the tunica nervoſa and villoſa join in forming large rugæ, which contain a ſoft ſlimy mucus, with which the whole cavity is moiſtened. It is called ſuccus gaſtricus or ſtomachicus. As the ſtomach receives in general, whatever the mouth and tongue ſend thither, through the canal of the oeſophagus, it retains the aliment for a longer or ſhorter time in proportion as its parts are more or leſs ſolid or fluid, and digeſts it, that is, puts it into a condition to be turned into that nutricious homogeneous fluid ſubſtance called chyle or matter one degree refined. This operation, which goes by the general name of digeſtion, and by which chylification begins, is performed partly by the ſuccus gaſtricus which continually flows from the tunica villoſa, by the nature of the food itſelf, which being received into the ſtomach, follows its own nature, and by the heat of that organ ſoon ferments, and by the attrition and colliſion of its particles againſt each other and the coats of the ſtomach thereby ſtimulate it into convulſive contractions; by the continual contraction and relaxation of the muſcular coats of the ſtomach, and by the alternate motions of the diaphragm and muſcles of the abdomen the aliment acquires a ſufficient degree of fluidity to paſs eaſily through the pylorus. By a continuation of theſe motions and by the aſſiſtance of the air, which accompanied the aliment when it came into the ſtomach, the contents of the ſtomach are gently moved forward to the pylorus, where it paſſes and enters the inteſtines. Theſe convulſive contractions are renewed till the ſtomach diſcharges its whole contents. So that the aliment is thrown into the guts by the alternate contractions of the ſtomach, excited thereunto by a ſtimulus; juſt in the ſame manner as the heart throws the blood into the arteries. The diaſtole of the ſtomach anſwers to the ſyſtole of the guts.

THE inteſtines are a long canal, lying between the pylorus and the very loweſt part of the abdomen, bent in a great many different directions, by numerous convolutions and turnings which fill the greateſt part of the cavity of the abdomen, and is in general about ſeven or eight times as long as the ſubject. It is divided into ſmall and great guts; the ſmall are divided into three portions, the duodenum, jejunum and ileum, and the greater alſo into three, the cæcum, colon and rectum. The inteſtines in general are compoſed of ſeveral coats much in the ſame manner with the ſtomach. The ſmall inteſtines form one continued uniform canal, and though three portions of it have three different names, yet we have no ſufficient mark whereby to diſtinguiſh them, to fix the preciſe extent and length of each portion and to ſettle its juſt limits. The great inteſtines are the ſame continued canal divided into three portions like the ſmall ones; their ſtructure is nearly the ſame. The firſt coat is a continuation of the meſentery or duplicature of the peritoneum, the ſecond coat is muſcular, the third is nervous, and both are productions of the meſenteric veſſels and nerves. The fourth coat is very ſoft, and is named tunica villoſa; it ſuſtains an infinite number of capillary veſſels of different kinds, for beſides the blood veſſels, we obſerve a great number of white filaments which run through it and terminate at its inner ſurface, like ſo many capillary roots of the veſſels, called venæ lactæ. The fungous ſubſtance which binds the capillary filaments together and ſurrounds them, is very tender, and the capillary extremities of the ſmall blood veſſels diſtributed through it ſeem to be turned towards the pores of the papillæ. Through theſe pores, a mucous fluid more or leſs tranſparent is diſcharged, which continually moiſtens the cavity of the inteſtine. It is alſo furniſhed with a great number of ſmall flat glandular tubes, which lie about the pylorus in cluſters. The duodenum has a greater number of theſe papillæ than any of the other inteſtines. Indeed the only difference amongſt the inteſtines conſiſts in the thickneſs of their coats, and in the number of papillæ. In the inner ſide of the duodenum almoſt at the lower part of the incurvation, there is a longitudinal eminence, in the apex of which, is an opening called the orifice of the ductus biliarius, within which the ductus pancreaticus likewiſe opens. The inteſtines finiſh what the ſtomach began. The alimentary pulp meeting with the inteſtinal lymph, pancreatic juice and bile, which is a fluid ſeparated from the blood, acting upon the inteſtines as a ſtimulus, throw them into a periſtaltic motion, and by valves placed at proper diſtances, which detained the aliment, till by its increaſed bulk it ſtimulates their coats into contractions, and the aliment is thereby diſcharged into the next portion. So that every motion of the guts between the valves, acts as a little ſtomach or heart. While the chyle is thus paſſing along, the more fluid part is by the ſame contractions thrown into the abſorbent veins. The groſſer or leſs nutritive parts, by their own inteſtine motion, the ſtimulus of the air, and by the action of the guts are conveyed from the ileum, the laſt of the ſmall guts, by the valve of the colon into the great guts, in the ſame manner as the food paſſes from the mouth into the pharynx. There it remains, till by the preſſure of the diaphragm and abdominal muſcles in reſpiration, by its own tumeſcence, as it advances onward it grows ſtill thicker, and preſſes upon the coats of the inteſtines, and thereby ſtimulates them into gentle contractions, which tranſmit it forward, till at laſt it is puſhed into the rectum, where partly by its own weight and bulk overſtretching the fibres, and by the acrid quality of its contents, the gut is thrown into convulſive motions, which produce a deſire of ejection, and the groſſer part is at laſt diſcharged through the lower inteſtines, and is called fœces. But when the bile, which is very neceſſary as we ſhall afterwards ſee, to forward the expulſion of the fœces, is obſtructed, or when the coats of the bowels are ſo relaxed, and their tone impaired, that they cannot diſcharge it, the perſon is coſtive, and the bowels are inflated with myaſma ariſing from the excrement, which in that caſe remains longer in the inteſtines than by the laws of nature it ought.

Costiveness with acrid crudities in the primæ viæ are the foundation of many diſeaſes, which in progreſs of time terminate in various ſhapes. In a coſtive habit of body the fœces are hard, and the moiſture which ought to be diſcharged with it, is again and again taken up by the abſorbent lymphatics, and by the laws of circulation mixes with the maſs of blood and carries with it a great deal of terreſtrious offenſive matter. Hence we ſee how neceſſary it is to keep the body open, and in the beginning of every complaint to cleanſe the primæ viæ.

This bundle of inteſtines is confined in their place by the meſentery and meſocolon, which is a continuation of the meſentery. The firſt portion of the meſentery incloſes the ſmall inteſtines, the other portion contains the large ones.

Between the laminæ of the meſentery a great number of glans lie ſcattered through the cellular ſubſtance; theſe glans, which are found in cluſters, and are made up of arteries, veins, nerves, and other particular veſſels, ſeparate from the maſs of blood by means of certain ſecretory veſſels, fluids, which they diſcharge either immediately or by other veſſels termed excretory, and theſe fluids are either accumulated in particular reſervoirs, collected in the common cavities, or forced out of the body. Beſides theſe glans and the blood veſſels, which are diſtributed in a reticular manner in the meſentery, and beſides many nervous filaments ſpread through them, there are an infinite number of ſmall veſſels of another kind running from gland to gland. They go out from each gland by ramifications, and after forming a ſmall trunk are again divided and enter ſome neighbouring gland. They are called lymphatic veſſels, vaſa chylifera, or venæ lactæ, becauſe they receive the aliment reduced into a milky fluid called chyle. They have the name of veins, becauſe their valves are diſpoſed as thoſe of the ordinary blood veins, and the fluid which they contain runs from ſmaller into larger tubes. They derive their origin from the tunica villoſa of the inteſtines, and form a rete mirabilis, which forms into two plains of ramifications. In this ſtate they run on the laminæ of the inſide of the meſentery till they arrive at the firſt meſenteric gland, where they again unite in one and are diſtributed through the meſentery; having paſſed through it, and uniting everywhere through its duplicature with the arterial ramifications, by their pulſation and by the irritation of the chyle, they propell it forward to the receptaculum chyli; before they arrive there, having paſſed the meſentery, they unite and form large hard trunks, which terminate about the middle of the meſocolon, and are joined by ſome others from the glandulæ lumbares; from thence they run down the body of the inferior aorta, and terminate in a kind of cyſtern called by anatomiſts receptaculum chyli. It is a membranous veſicle, the conformation of which is various in human ſubjects. The upper portion is contracted, and forms a particular canal called ductus thoracicus, which runs through the thorax. The thoracic duct is a thin tranſparent canal, which runs up from the receptaculum chyli along the ſpina dorſi, in ſome ſubjects, terminates in a kind of veſicula, in others, by ſeveral branches united together, which open into the backſide of the ſubclavian vein. This canal is plentifully furniſhed with ſemilunar valves turned upwards. Its opening into the ſubclavian vein in the human body is in the place of valves, covered by ſeveral pelliculæ, ſo diſpoſed as to permit the entrance of chyle into the blood, and at the ſame time to hinder the blood from running into the duct. The ſubclavian vein terminates in the vena cava, which empties itſelf into the heart.

The heart is a muſcular body ſituated in the cavity of the thorax. It is hollow within, and divided by a ſepta which runs between the edges into two cavities called the right and left ventricle; each ventricle opens at the baſis by two orifices, one of which anſwers to the auricles, the other to the mouth of a large artery, and accordingly one of them may be termed the auricular orifice, the other the arterial orifice. The right ventricle opens into the right auricle, and into the trunk of the pulmonary artery; the left into the left auricle and into the great trunk of the aorta. The blood is carried by the aſcending vena cava to the right auricle of the heart, thence into the right ventricle, and after its trituration and rarifaction there into the left auricle, from thence it paſſes into the left ventricle, and then it is thrown into two great arteries, the aorta and arteria pulmonalis, and by its quantity, turgeſcence, and acrid quality, dilates the coats of the heart, and by ſtimulating and irritating the nerves, occaſions a greater influx of the nervous fluid to the irritated parts, which throws the heart into violent ſpaſmodic and convulſive affections, and being made up of ſtrong muſcular parts it ſtruggles to diſengage itſelf of the offending fluid, which at laſt it accompliſhes by a ſtrong contraction called the ſyſtole of the heart, which anſwers to the diaſtole of the arteries.

THE primary cauſe then of the circulation of the blood from the heart proceeds, as all the other motions of the fluids do, from the irritation it gives to the nerves, which throws them into ſpaſms and convulſions. So that the circulation of the blood is carried on by the ſpaſms of the nerves, and the nervous fluid circulates by means of the impulſe of the mind, the ſtimulus of the atmoſphere, the natural quality of the fluid itſelf, and the impetus it receives from the circulation of the blood in the larger veſſels. Now if the blood was never to be ſtopt by the canals through which it runs, and if the continuity of the

the canals was never to be interrupted, then being once put into motion by the firſt ſyſtole of the heart, it would always continue to move; but as it meets with great reſiſtance, beſides the ſyſtole of the heart, the blood is forwarded in its motion many other ways. The elaſticity of the veſſels, or that force by which their ſides being diſtended by the blood flowing in, endeavour to reſtore themſelves to their former ſtate, give a freſh motion to the blood, and by a ſyſtole or contraction of their arteries, the blood is thrown into the veins. The diaſtole of the arteries is what we call the pulſe. The veins have no pulſation, becauſe the blood diſcharged from the arteries into the veins, goes from a narrower paſſage into a wider with a ſlower motion, and theſe veſſels accommodate themſelves more to the paſſing blood, and therefore are not expanded enough to make a pulſe. The veins lie nearer the ſurface of the body than the arteries, and are furniſhed with valves, that is with ſmall membranous ſacculi fixed at different diſtances to the ſides of their cavities; the openings of theſe valves are broad, and turned toward that ſide where the vein is largeſt. The arteries are thicker than the veins, and are known by that beating called a pulſe. A contraction of the arteries may be conſidered as a continuation of the heart's force, and every contraction of the arteries acts as a little heart in puſhing on the blood. The blood itſelf, from its own quality and the expanding air which it contains, is very fit to act as a ſtimulus upon the delicate fibres and nervous filaments of the veſſels, and the ſmaller the veſſels are, the more ſenſible. The inteſtine motion of the particles of the fluids produces a heat which likewiſe promotes the circulation. Before the blood arrives at the ſmall veſſels, it has loſt all the motion it received from the heart, but the alternate contractions of the veſſels through which it paſſes, excited thereunto by irritation, ſo that every fibre like a little heart puſhes on the contained fluids, keep up the motion in the ſmall capillary veſſels, where it is far from being rapid, but rather very uncertain, ſlow, and irregular. The whole vaſcular ſyſtem is endued with a moving power, the alternate contractions of the veſſels, the ſemilunar valves of the aorta, the force of the heart, and the ſucceeding column of the moving fluid prevent the alternate contractions of the veſſels from throwing the fluids backward, and impel them to move forwards to the veins. The blood being forced by the contraction of the ventricles, puſhes the tricuſpedal valves againſt each other, opens the ſemilunares and ruſhes into the arteries, which by their elaſticity puſh on the blood, till it enters the capillary veſſels, and is from thence forced to return by the veins to the auricles. It returns by three kinds of veins, called by anatomiſt's vena cava, vena portæ, and vena pulmonaris. The vena cava carries back to the right auricles of the heart the blood conveyed by the aorta to all the parts of the body, except what goes by the arteriæ coronariæ cordis. It receives all this blood from the arterial ramifications in part directly, and in part indirectly. The vena portæ receives the blood carried to the floating viſcera of the abdomen, and conveys it to the vena hepatica, and from thence to the vena cava. The vena pulmonaris conveys to the pulmonary ſinus or left auricle of the heart, the blood carried to the lungs by the aorta pulmonaris. The aorta gives riſe to two ſmall arteries called coronariæ cordis, which go to the heart and its auricles: from its upper arch or curviture it ſends out three, ſometimes four capital branches; the arteriæ corotides, which run directly to the head and brain, and the ſubclaviæ, out of which ſeveral arteries ariſe, as the mediaſtinum, thymus, pericardium, aſpera arteria, &c. which ſupply the mediaſtina, pleura, pericardium, oeſophagus, &c.

THE pulmonary artery divides and carries the blood to each lob of the lungs, which are two large ſpungy bodies filling the whole cavity of the thorax or breaſt. The ſubſtance of the lungs is almoſt all ſpungy, being made up of an infinite number of membranous cells, and of different ſorts of veſſels, as air veſſels, blood veſſels, &c. ſpread among the cells in innumerable ramifications. Theſe cells communicate with each other. All the veſſels of which the lungs are chiefly compoſed, that is, the air veſſels or bronchia, and the blood veſſels, that is, the pulmonary and bronchial arteries and veins accompany each other through this whole viſcus. Theſe veſſels tranſmit the blood through their narrow capillary extremities, and thereby change and modify it. By the contraction of the intercoſtal muſcles, the arches of the ribs are raiſed, together with the ſternum, and placed at a greater diſtance from each other, by which means the cavity of the thorax is enlarged and the diaphragm flattened, the cavity of the bronchia being at the ſame time and by the ſame means leſs preſſed upon, the ambient air yields to the external preſſure, and inſinuates itſelf into all the places where the preſſure is diminiſhed, that is, into the aſpera arteria, and into all the ramifications of the bronchia all the way to the veſicles. This is called inſpiration. When this is performed, the intercoſtal muſcles relax and the intercoſtal ligaments and cartilages of the ribs bring them nearer to each other. This motion is called reſpiration. By the action of the lungs the blood has the coheſions of its parts broken, is much attenuated and is deprived of a quantity of ſerum, which tranſpires through the lungs and is called the breath. And by the inſpiration of freſh air it is reanimated and ſtimulated to paſs to the reticular capillary extremities of the veſſels. Reſpiration is owing both to the blood's acting as a ſtimulus upon the veſſels of the lungs, and alſo to the operation of air in inſpiration.

RESPIRATION differs from other involuntary motions, in this, that the mind has a more immediate power over it. The ſoul has, as I ſaid before, a power over all the motions of the body; the voluntary motions are the reſult of its action, and the involuntary may be accelerated or retarded thereby, but it is no farther a party concerned in the involuntary motions of the body than when it is called upon by ſome præternatural ſtimulus. The foetus indeed lives in utero matris without reſpiration, becauſe the greateſt part of the blood by means of the foramen ovale or ductus arterioſus is conveyed from the right ſinus venoſus and ventricle of the heart, into the left ventricle and aorta, without paſſing through the lungs; and the nouriſhment which the child receives being derived from the juices of the mother which have already undergone a due trituration, is as fit for its nouriſhment as for her's.

A STIMULUS, which is the cauſe of all motion, keeps the animalcule alive in ſemine patris. Its circulation is kept up by means of its ſtimulating fluid and the heat of the body of the male, which is an additional one. When it is lodged in utero matris, the heat of that veſſel with the ſurrounding waters act as an aſſiſting ſtimulant to carry on the circulation. When it comes into the world, the ſurrounding air ſets the lungs in motion, and the circulation thereby goes on.

THE arteria vertibralis goes out from the upper ſide of the ſubclavian and ſupplies the vertibral muſcles. The oeſophagææ ariſe from the aorta aſcendens, and are diſtributed to the oeſophagus. The arteriæ intercoſtales ſend out branches to the pleura, vertibral and abdominal muſcles. The cæliac artery ariſes from the aorta deſcendens, and after giving off a conſiderable branch is itſelf divided into two, the arteria hepatica and ſplenica.

THE hepatic artery ſupplies the liver, which is a large and pretty ſolid maſs of a dark red colour a little inclining to yellow, ſituated immediately under the diaphragm on the right ſide. It is compoſed of ſeveral kinds of veſſels, the ramifications of which are multiplied in an aſtoniſhing manner, and formed by the intertexture of their capillary extremities in an innumerable collection of ſmall pulpy friable corpuſcles or organs deſigned to ſeparate from the maſs of blood a particular fluid called bile. The villi of the numerous glandular cells of which the liver is compoſed, filtrate continually from the blood of the vena portæ ſmall drops of bile, which afterwards inſinuate themſelves into the pori biliarii, and are partly lodged in the gall bladder. The blood deprived of the bilious fluid is re-conveyed to the heart by a great number of venal ramifications, which terminate in the vana cava. The pori biliarii unite in one common trunk called ductus hepaticus, which having run a little way, joins another called ductus cyſticus, and forms a common trunk named ductus cholidochus, which inſinuates itſelf through the coats of the duodenum, and opens into the cavity thereof.

THE gall bladder, lying in the depreſſion on the concave ſide of the liver, is a ſmall bag like a pear, and is connected with it by a vaſt number of filaments, which run a great way into the ſubſtance of the liver, and amongſt theſe filaments there are ſome which form a communication between the pori biliarii and veſicula fellis or gall bladder, which is a veſſel deſigned to ſecrete from the blood a very acrid bile, which would be too acrid without mixing with the hypatic, and the hypatic would be too mild without it.

BESIDES theſe there is a long flat gland in ſhape like a dog's tongue, called the pancreas, lying under the ſtomach, compoſed of a great number of ſoft glandular moleculæ, in the middle of which is a particular duct in which ſeveral ſmall ducts terminate. This duct is called ductus pancreaticus, and opens into the ductus cholidochus, and from thence it diminiſhes gradually and terminates in a point next the ſpleen.

FROM the cœliac artery the ſplenetic artery ariſes which ſupplies the ſpleen. The ſpleen is a bluiſh maſs inclining to red, of a long oval figure, and is ſituated under the edge of the diaphragm, between the extremity of the ſtomach and the falſe ribs, above the left kidney. It is connected to the ſtomach by the vaſa brevia, to the extremity of the pancreas by ramifications of the ſplenic artery and vein, and by ramifications which the ſame artery and vein ſend to the ſpleen; it is tyed to the omentum, which is a thin membranous bag ſpread over the ſmall inteſtines from the ſtomach to the lower part of the regio umbilicalis and ſometimes farther, and is connected with all the veſſels already mentioned.

THE ſpleen, pancreas omentum, &c. all promote a ſecretion of bile: and the blood having its paſſage retarded in its circulation through theſe veſſels is purged by various ſecretions till it meets in the ſinus or trunk of the vena portæ hepatica, where it is all intimately mixed and becomes one uniform maſs. All theſe arteries have correſponding veins which receive the blood from them, and convey it back to the heart after undergoing many purgations.

THE irregular ſecretion of bile is the cauſe of many, and exaggerates every complaint. This is an opinion as early as Hippocrates himſelf; for he tells us that he found Democritus with ſeveral dead bodies, which he was diſſecting in order to find out the ſeat of the bile, and how it is ingendered, that he might be the better able to cure the multitude of complaints ariſing from it. If the blood be not ſufficiently agitated and attenuated by the action of the veſſels, it becomes viſcid, or when rendered viſcid from any other cauſe it is diſpoſed to ſtagnate. That this ſhould happen ſo frequently in the liver is not to be wondered at; for whoever conſiders how ſlowly the blood being venal, is moved through the liver, when the contractile force of the heart and arteries are deficient and wanting as aids to propel it forwards, will ſee the cauſe of ſuch frequent and obſtinate chronic obſtructions in that large viſcus. Beſides the bile has the ſame natural propenſity to coheſion as the other fluids; for its watery parts being exhaled and its earthy ones being united with the oleous, a perfect pitchlike tenacious ſubſtance is formed. Nay, bile preſerved in the gall bladder will go into ſtoney concretions. When the extremities of the bilious ducts are obſtructed, and the hypatic bile being thinner than the blood will eaſily retrocede and eſcape into the vena cava, and ſo be carried into the maſs of blood. I believe it is ſomewhat difficult for thoſe bilious tubes to become obſtructed, becauſe they are as ſo many inverted cones, narrow at their origin, but increaſing in circumference or dimenſions the further they are extended, but near their entrance into the common duct to paſs into the gut called duodenum, their diameters become contracted. Now it is certain that whatever hinders the bile from flowing into the inteſtines, by contracting or blocking up the cavity of the hypatic and cyſtic duct, will occaſion a re-flux of bile into the vena cava and produce a jaundice, whether it be from concretions therein ſituated, or by a preſſure of thoſe canals ab aliunde, or from too great a lentor and viſcidity in the bile itſelf. If the bile again is not ſecreted from the fluids of the vena porta, the blood will be affected with a bilious cacochymy, or a redundance of that humour: why the re-flux of the bile into the blood ſhould occaſion a jaundice, or that pathognomonic or inſeparate ſign a diſcolouring of the ſkin, particularly of the whites of the eyes, no one can be at a loſs to know. For the ſkin receives its tincture or hue from the juices, and the bile being of a ſaponaceous nature is eaſily diſſolved with the watry part of our blood, circulates therewith, and moves along thoſe veſſels which do not admit of red blood; and the tunica adnata or common covering of the eye is a very thin membrane, through which the yellow colouring of the bile is very conſpicuous. The ſecretory veſſels of the kidneys are likewiſe ſo ſmall that they exclude red blood, and the urine conſiſting only of its watery part with ſome ſalt and oil mixed therewith, is ſoon perceptibly changed; and as the property of the bile is to fuſe the blood, the whole ſkin ſoon receives a yellow colour.

THE blood is further purified and freed of its watery parts by the kidneys, which are glandular bodies in figure ſomething like a bean. They are ſituated upon each ſide of the body, the right under the great lob of the liver, the left under the ſpleen, and are nouriſhed by a branch from the vena cava and aorta deſcendens, which enter the kidneys by ſeveral rami. On their inſide there are many radiated tubes which terminate in papillæ reſembling cones, with very broad baſes and obtuſe apices, each of which lies in a membranous calix or infundibulum, which opens into a common cavity called the pelvis.

It is membranous and divided into three portions, each of which contains a certain number of infundibula, together with the papillæ which lie in them and form ſmall ſhort tubes, which uniting at different diſtances along the bottom of the ſinus of the kidney, form three large ones; theſe tubes, in thus paſſing through the ſinus, unite and form the uriters; there is one for each kidney, which runs down obliquely and forms the fundus of the bladder. Through all theſe paſſages the urine is ſecreted, and at laſt lodged in the bladder, which is a ſolitary muſcle, containing the urine which gradually oozes into its cavity by the uriters. When the urine is in ſuch a quantity as to diſtend its coats, it is then thrown into contractions, which with the aſſiſtance of the diaphragm, abdominal muſcles, and levatores ani, open the ſphincter and expel the urine. If the inner coats of the bladder are rubbed or fretted by a calculus or any acrid quality in the urine, then the ſphincter is violently contracted and the diaphragm and abdominal muſcles are convulſed, the urine is obſtructed, and the perſon feels a conſtant tendency to make water, though little or none comes away.

The blood thus purified undergoes ſeveral circulations till by trituration it has ſuffered many of its angles to be rubbed off, and it thereby acquires a ſtill finer conſiſtence ſo as to enter the ſmall capillary veſſels, from thence it is abſorbed by the nerves, where it is ſtill further ſubtilized, and the finer part goes to ſupport the body, and the excrementitious part is expelled by perſpiration. All this action and motion of the fluids in the body are the reſult of a ſtimulus upon the nerves, and is properly called vegetable or natural life, as all vegetables, foſſils, minerals, &c. have a circulation of this kind; and the Almighty leaves them to be governed by the laws of nature. Yet though irritation or a ſtimulus is the cauſe of motion, and ſupports and continues vegetable life, the beſt things may by exceſs become hurtful, and whatever is the cauſe of natural, if too much increaſed, will produce unnatural motions. So when it is greater than by the laws of nature it ought, which is the caſe in all obſtructions, the mother of diſeaſe, then it diſorders the animal œconomy, and threatens the entire deſtruction of the whole human frame. Hence we ſee the neceſſity, in all diſeaſes, of giving antiſpaſmodic medicines in large doſes, and though we do not perceive ſpaſms outwardly, yet there cannot poſſibly be a diſeaſe without an unnatural irritation in ſome part of the body. The beſt antiſpaſmodic is muſch, which wonderfully alleviates convulſive ſpaſms, eaſes pain, promotes a free circulation, raiſes the ſpirits, and is an excellent diaphoretic without heating or giving the ſmalleſt uneaſineſs. Sanctorius ſays, that this evacuation in one day is equal to all the ſenſible evacuations for fifteen, but this though it is not found by obſervations ſince made to be quite ſo great, yet it ſerves to ſhew how neceſſary a free perſpiration is for the preſervation of health, and reſtoring it when loſt. Every part of the ſurface of the body have veſſels with open mouths to let out all noxious matter that offend it. Obſtructed perſpiration is the cauſe of many diſeaſes, particularly of the nervous kind, and phyſicians have been ſo ſenſible of the ſalutary effects of this evacuation, that they have been in all ages ſearching after a medicine that will effectually promote it, but as far as I know, their ſearches have proved fruitleſs. When I wrote upon the nerves, I knew no medicine that would infallibly promote perſpiration, otherwiſe I ſhould have carefully imparted it to the public: ſince that time I have made that uſeful diſcovery, which, with ſome others of the utmoſt conſequence in phyſic, hath prevailed upon me to write this ſmall treatiſe.

CHAP. V.

Of voluntary Motion or animal Life.—The general Cauſes of Diſeaſes accounted for by the Laws of Mechanics, and the different Affections of Matter and Motion.

FROM what hath been ſaid we plainly ſee that the involuntary motions of animals ariſe from mere mechaniſm, common to them with the other parts of the creation, and conſtitute their vegetable or material life. But man, in common with all other creatures, has an immaterial principle, by means of which he enjoys an animal life, which conſiſts in voluntary motion; and as our involuntary motion depends upon a ſtimulus, applied to the nerves by a material agent, ſo our voluntary motion depends upon a ſtimulus given to the nerves from the mind. The nerves are the inſtruments made uſe of in both motions. Though the mind has a power over the involuntary motions of the body in a healthy ſtate, yet when the body is diſeaſed or imperfectly formed, the operation of the mind is then irregular. Some people are born with imperfect nerves, and therefore continue idiots all their lives; yet the ſoul all the while may be capable of action, if the bodily organs were duly formed to exerciſe its faculties upon them. The vaſt variety we find in mens natural capacities and endowments, no doubt ariſes moſtly from the natural difference of the ſtructure and mechaniſm of the bodily organs; tho' for what we know there may be a difference even in the ſouls of men; one ſoul may differ from another as one ſtar differs from another ſtar in glory. Again, the body could often walk when the ſoul is unable to direct walking through an indiſpoſition of the nervous fluid; for it is in vain that the ſoul wills motion when the nerves are partly relaxed and unfit to execute the will of the mind. In vain does the palſical man will to walk, the blind to ſee, and the deaf to hear, 'till the impediments in the bodily organs are removed; when they, by proper applications, are removed, the body walks, the eyes ſee, the ears hear; yet we cannot ſuppoſe that the applications worked any change in the ſoul, which is impaſſible, conſequently incapable of change; and matter can no more diveſt the ſoul of its faculties, though it can render it impoſſible for it to exert them upon the body, than it can add new qualities and properties to it. The bodily organs, upon which the operation of the ſoul depends, greatly vary, and diverſe diſeaſes diſconcert and diſorder the figure, motion, and texture of the organs of ſenſation, which conſequently incur a proportional change in the exerciſe of the faculties of the mind. We often ſee a perſon of great underſtanding deſpoiled of all his wiſdom and in a ſtate of lunacy by the violence of a fever, the poiſon received from the bite of a mad dog, &c. For God, when he formed matter out of nothing, aſſigned to it laws whereby things move, combine, vary one from another, and perpetually ſubſiſt. Man he formed an organized body, ſuſceptible of innumerable motions, and liable to eſtabliſhed laws. And though the courſe of the animal ſpirits is ſubordinate to our wills, it does not from thence follow, that ſuch courſe is incompatible with the laws of motion, to which laws all eſſential and voluntary motions, diſcovered in matter, are conformable. Therefore man, being an organized body, made up of material parts more or leſs compacted, is ſubject to the laws of matter. The more compact parts of the body, called ſolids, contain the looſer parts, called fluids, and all diſeaſes ariſe from the ſyſtem of the ſolids and fluids intended or remitted in their motion, above or below the ſtandard of nature; for a due proportion of tenſity or firmneſs with a proper degree of fluidity, conſtitutes the happy medium in which perfect health conſiſts, and every deviation from that ſtandard incurs a proportionable degree of diſeaſe. When the ſolids ceaſe to contract, the motion of the body ſoon ceaſes with it, and when the motion ceaſes, the fluids ſtagnate and putrify. For a due fluidity of the blood does not depend entirely upon the blood itſelf, but upon motion impreſſed upon it by the action of the ſolids, which breaks, and ſubtilizes and fits it for paſſing through the fineſt tubes, and for performing the ſecretions and excretions neceſſary to preſerve the body in health. An exceſs over or below that ſtandard produces diſeaſes of one kind or other. When once the equilibrium between the ſolids and fluids is broken, the machine muſt be ſhattered. In a healthy ſtate, the ſolids are endowed with ſuch elaſticity as gives the blood a regular motion, aſſimilates and duly mixes the fluids, and keeps up the regular ſecretions and excretions, all the motions are regular and uniform, the heart contracts regularly, the arteries beat proportionably, and the whole animal oeconomy glides on in a calm uniform and uninterrupted courſe. Then the body is in the center of perfection, and the ballance inclines to neither ſide. If the ſolids are too lax, the heart beats ſlowly, the arteries contract proportionably, and the blood moves ſlower than is requiſite to attenuate and prepare it for ſecretion. The veſſels are clogged with viſcid humours, obſtructions are formed, the ſecretions are interrupted, the perſon becomes weak, languid, heavy, dull and melancholy, and various diſeaſes enſue according to the part of the body where the obſtructions are formed, and according to the degree of obſtruction. The food we eat muſt be ſufficiently concocted and digeſted into good chyle by the action of the ſtomach and bowels, and perfectly aſſimilated and conveyed into our nature. Therefore a certain determinate force is required in the ſtomach and bowels to digeſt and reduce our aliment into good chyle; but if that force or ſtrength of the veſſels, that conſtitute the human frame, is feeble, impaired, and weakened, their actions upon the contained fluids will be leſſened, the chyle will be imperfectly attenuated and prepared to be converted into good blood by repeated circulations, the impulſe of the fluids againſt the ſecretory ducts will be languid, ſecretion imperfect, and there will be a defect in ſomething neceſſary to perfect digeſtion and nutrition. A languid circulation will therefore occaſion a lentor and viſcidity in the juices, and from a lentor in the juices, and a diminution of their ſecretions, obſtructions will be formed, and the diſeaſe will be diverſified according to the quality of the obſtructing matter, which may be either partial or total, and occaſion a maraſmus or conſumption, jaundice, dropſy, rheumatic pains, carious bones, corruption of the ligaments and joints, with an innumerable train of other languiſhing diſorders, our greateſt pain and dread on this ſide of the grave. What ought to be expelled will be retained, the excrements will not be thrown off with due force, and in ſufficient quantity to purify the juices, which will neceſſarily become viſcid, ſharp, putrid, and ill conditioned, the body will be filled with noxious humours, and not properly nouriſhed, becauſe the ſolids, being too lax and weak, do not convey the fluids with ſufficient force to reach, adhere, and apply themſelves from whence the waſte is made. For there always is, as I ſaid before, ſomething flying off from the ſurface of our bodies by the conſtant reciprocal action and re-action of the ſolids againſt the fluids, and the fluids againſt the ſolids. And the attrition of the ſolids againſt the ſolids, and the fluids againſt the fluids muſt rub off and conſume ſomething, and the ſecretions and excretions conſequent thereon muſt occaſion a waſte, which muſt be reſtored and repleniſhed out of what we eat and drink, being firſt ſo changed by the actions of life and health, as to become ſimilar to the ſolids and fluids from whence the waſte was made, otherwiſe ſtrength will be impaired. Therefore if this change is not perfected, the nutritious matter will acquire a depraved diſpoſition and become unfit for nouriſhment. For the chyle we know muſt circulate ſome time in the maſs of blood, till, by repeated circulations and the action of the veſſels thereon, it acquires the ſame ſtate. Now it is evident if the circulation is languid, the contractile force of the veſſels weakened, a complete aſſimilation cannot be made, and of conſequence the body cannot be nouriſhed; as parts muſt be ſupplied by parts ſimilar to thoſe from which the waſte was made, i. e. by our own humours perfectly aſſimilated into our own nature, which as they circulate through their channels, ſtop, adhere, and fill up the vacuities. Hence comes the neceſſity of that plaſtic quality obſervable in the blood, ſerum and its excretions, that it may become ſufficiently adheſive. But when the blood loſes its due fluidity and balſamic quality, all the juices in conſequence partake of it and become filled and crouded with hard concretions of the nature and quality of thoſe with which the blood abounds, and being thus unnaturally nouriſhed and repaired, will ſtop, ſtagnate, putrify and form into acrid corroſive humours.

If the ſolids are too elaſtic, the circulation is carried on with too great force and rapidity; inſtead of that calm, uniform manner in which the functions of the animal oeconomy are naturally performed, the ſolids contract more forcibly upon the contained fluids, which by the heat and friction are much rarified, attenuated, and ſubtilized, whereby they loſe their finer parts, nor will a ſufficient time be allowed for the nutritive matter to adhere to the places where it is wanted, and the ballance between the ſolids and fluids is taken away. Hence inflammatory diſeaſes, high fevers, ſtone, gout, madneſs, hectic and other acute diſorders, which are in proportion as the ſolids and fluids exceed the ſtandard of health; and according as the ſymptoms ariſe from this or that general cauſe diſeaſes receive their names; for the names of diſeaſes are only technical terms, expreſſing

preſſing the ſtate of the ſolids and fluids. In order therefore to preſerve health it is abſolutely neceſſary that an equal motion in the fluids and an equal reſiſtance in the ſolids ſhould be preſerved; and as another condition of health it is alſo required, that our fluids be mild and ſmooth, void of acrimony to deſtroy the veſſels, and of a due conſiſtence and eaſily moveable through the ſmalleſt veſſels. It is very true, the fluids cannot be in an unhealthy ſtate without affecting the ſolids, for the ſolids receive their nouriſhment and growth from the fluids; for there is no point of the human body that is not vaſcular, and through which there does not flow a liquor, and the larger veſſels are made up of ſmaller ones adhering to one another by the interpoſition of a mucilaginous glew or juice, and theſe by ſmaller ones in a conſtant gradation, till you come to the ſmalleſt and laſt veſſels, which are made up of the moſt ſimple fibres, and are nouriſhed by the fineſt and moſt ſubtilized fluids in the body. Therefore the ſolids muſt ſuffer with the fluids. But in all diſeaſes the fault is firſt in the fluids. There are ſome that have by nature a looſe, weak, and delicate texture of body, and upon that account are very liable to illneſs from a very ſmall degree of intemperance and irregularity, bad unhealthy food, &c. Yet if none of theſe things happen, the ſolids will preſerve a due degree of tone, conſiſtence, firmneſs, and elaſticity, neceſſary to the perfect performance of the animal functions. Hereditary diſeaſes are no exception to this doctrine, becauſe intemperance in the firſt ſufferer brought on the diſeaſe. In order therefore to preſerve health, it is abſolutely neceſſary that an equal motion and conſiſtence in the fluids and an equal reſiſtance in the ſolids be preſerved, not only in the larger veſſels, but even in the very ſmalleſt; for when this equal motion and transflux is impeded, the animal oeconomy is more or leſs diſordered, according to the degree of impediment; for all the veſſels and fluids have a neceſſary connection. If a fluid in any part of the body is retarded or accelerated in its motion, it communicates the change to all the other parts of the body. A ſtoppage of ſome natural evacuation, as the courſes in women, if the humour retained is not thrown off by ſome other outlet, muſt cauſe a plenitude, which plenitude diſtend the veſſels beyond their uſual dimenſions, and cauſe debility. If the urine is retained in the bladder too long and in too great quantity, its coats are ſo far ſtretched, that they loſe their power to contract and expel the water. And if the fluids offend in quality, they incur a neceſſary change in the body.

When the juices are too thin, they are unfit for nutrition; when too thick, they cannot pervade the veſſels through which they are required to circulate. If too acrid, they will be more apt to cauſe an attrition from the parts than to afford ſupplies thereto. Yet a certain degree of acrimony is perhaps neceſſary, as well as the action of the ſolids, to keep them in a due degree of fluidity; a certain quantity of acrid particles in men's blood is neceſſary to ſtimulate the veſſels to perform the ſecretions neceſſary to health; for though a redundancy of ſalts is the cauſe of many diſeaſes, yet if there is not a ſufficient quantity to ſtimulate the veſſels into action, the fluids languidly circulate without being perfectly ſecreted. In a diabetes the urine begins to flow without this ſalt, which abounds in the urine of all healthy perſons. The urine in this complaint reſembles honey in ſweetneſs, and the tone of the kidneys, being deprived of its neceſſary ſtimulus from the ſaline particles, becomes more and more relaxed, and the capillary veſſels are weakened to ſuch a degree that they pour off the urine in a copious and almoſt uninterrupted ſtream, till at laſt it ſometimes flows out mingled with the chyle. If the blood and juices are viſcid, putrid, and ill conditioned, then the blood will be retarded in its circulation by a greater preſſure upon the ſides of the veſſels, and obſtructions

tions are formed in the ſmall capillary ones, which, by rendering them impervious, force a greater quantity of juices upon the pervious ones than they are accuſtomed to drive about, and ſo by degrees looſen the texture and relax the tone of the ſolids, a great coldneſs is thereby brought upon the body, which as it were congeals and coagulates the juices and gives riſe to many complaints. If the ſolids preſerve their firmneſs and rigidity, then the velocity, heat, and friction of the parts are increaſed, the body feels an unnatural heat, which inſpiſſates the blood by evaporating the fine ſpirituous parts, obſtructions are formed, attended with inflammation, heat, fever, pain, &c. in the affected parts, which having its veſſels diſtended, if the obſtruction is not ſoon removed, burſt the veſſels, and an extravaſation of the fluids follows. Therefore as the veſſels ariſe two ways from the arteries, either directly as the veins, or obliquely or laterally as the glands and ſecretory veſſels, which are leſs than the veins and

arteries,

arteries, if the juices are thicker and more viſcid than by the laws of nature they ought, whether it ariſes from relaxation, inſpiſſation or coagulation, what ought to be abſorbed, ſeparated, and ſecreted, can by no means enter the orifices of the glands, but goes directly into the veins, and ſo the ſecretion is loſt, and the ſecretory veſſels will either cloſe from a deficiency of the diſtended fluid, and the body will be filled with morbid juices, or the veſſels will tumify, relax, and burſt, from too great a diſtenſion of their ſides; hence lentors and coheſions, ſluggiſhneſs, and inaptitude to motion, tumours, polypuſſes, ſwellings, conſumption, jaundice, dropſy, rheumatic pains, carious bones, corruption of the ligaments of the joints, with innumerable train of other languiſhing diſorders, which are diverſified according to the different qualities of the offending matter and offices of the part affected; for obſtructions may be either partial or total. If the lentor and viſcidity particularly affects the heart, and the blood falls into a grumous conſiſtence in the auricles of the heart, a ſolid maſs reſembling leather, called a polypus, is formed. If the ſeat of the complaint is in the ſmall arterial veſſels, an inflammation is produced, and the finer part of the blood ſtopping in the ſmall arteries, ſometimes exhales through the ſmalleſt lateral veſſels, if they too are not obſtructed, otherwiſe it ſtagnates and putrifies. Hence puſtles, gangrenes, and various other diſeaſes. If the broad and firſt orifices of the lymphatics are principally affected, then a polypus or white gypſeous hard matter is formed. If at their extremities, a dropſy and white veſicular tumour or oedema ariſe from the diſtenſion of the veſſels by their own pellucid liquor, which if it burſt their ſides, and is extravaſated, then comes a leucophlegmatia or anaſarca, and from the acrimony which by ſtagnation it contracts, impoſthumes and gangrenes are formed; and if the more fluid part is ſqueezed out and the thick matter unites, a ſchirrus is then produced, which if the matter is moved, terminates in a cancer. In caſe a great quantity of veſſels is deſtroyed by the vital power and obſtinate obſtruction, then a ſphacelus or mortification of the part enſues. If the diſeaſe is in the extremities of the finer veſſels, then the nerves are not ſupplied by a ſufficient quantity of well conditioned fluid; hence various nervous ſymptoms.

When our fluids are too thin and their parts much divided, then the circulation is accelerated, the heat increaſed and the blood rarified and ſubtilized by the heat and attrition of the parts, and being ſo much divided, as to the bulk of its particles, paſſes more eaſily from the arteries into the veins, than into the lateral veſſels, which, being deprived of their proportion or quantity of fluid, and not having their ſides duly diſtended, wither and colapſe, and at laſt become fibrous ſtamina; the veins being over diſtended with a fluid not properly aſſimilated, contract themſelves more forcibly, and by attrition produce an unnatural heat, which occaſions acrimony, and burſts the veſſels. The increaſed velocity of the blood and the unnatural attrition of its parts greatly increaſes acrimony, by changing the mild, ſmooth, and globular parts into ſharp pointed, acrid, and ſtimulating ſalts. Reſolution too very much promotes acrimony; for the blood, being reſolved and freed from its globoſe texture, becomes acrid. If the blood of a healthy perſon is kept ſome days in a veſſel, it becomes foetid and very acrid; whence it is evident the blood putrifies by ſtagnation. For putrefaction conſiſts in a ſeparation, reſolution, or diſunion of the parts of matter, which being volatilized and attenuated by heat, loſe their finer parts, and what remain coaleſce as if they were condenſed by cold. Hence ſchirruſſes ariſe from too much heat as well as too much cold. When the blood receives this acrimonious quality it corrodes, tears, and deſtroys the tender and delicate veſſels, and occaſions acute pains, corroſive, ſcorbutic and cancerous ulcers, and ſores all over the body; and by its corroſive quality it pricks and twitches the nervous fibres, and thereby throws them into ſpaſms and convulſions; and the ſolids being ſtimulated and corroded, occaſion the circulation to be carried on with too much hurry, and the blood loſes its due fluidity and balſamic quality, which is conſumed and burned up by the corroſive and acrimonious ſalts, which are forced into the ſmall capillary veſſels, deſigned to receive the lymph or thinner part. Some great and noble veſſel is attacked, ſpoiled, and deſtroyed, various diſeaſes of the inflammatory kind are produced, as hectic fevers, conſumptions, gout, eriſipelas, rheumatiſm, &c. And the blood veſſels being burſt and corroded, occaſion hæmorrhages, and the ſolids being weakened, relaxed, and broken, ſuffer the thin acrid ſerum to ooze through their ſubſtances; the ſmall lymphatics, by the force of the circulation and by the acrimonious quality of the fluids, are mangled and torn, then impoſthumes, gangrenes, mortifications, &c. follow. If theſe cauſes are in a leſs degree, and advance by ſlower ſteps, and the perſon indulges himſelf in indolence and lazineſs, then the ſolids get more and more relaxed, and all that horrid, gloomy, and perſecuting train of nervous complaints, the very bane of human life, enſue.

CHAP. VI.

Theory in Phyſic not founded upon eſtabliſhed Principles. The pernicious Effects of much Medicine pointed out. Nature proved to be the beſt Phyſician.

BY the rules of the animal oeconomy it is neceſſary that the fluids have a due conſiſtence and balſamic quality, and that the ballance between the elaſticity of the ſolids and the reſiſtance of the fluids be kept up, to preſerve the individual in health; and if from any cauſe the ballance is deſtroyed, then the individual ſuffers in proportion as the ſolids and fluids are removed from the ſtandard of health. Now as God has aſſigned to matter certain eſtabliſhed laws, if we were perfectly acquainted with the nature and qualities of every fluid in the animal body, and that in every diſeaſe they were all in the ſame ſtate and conſiſtence, no matter whether the diſeaſe aroſe from acrimony or viſcidity, and if all the ſolids were equally relaxed or braced, then indeed we could proceed upon principles in the cure of diſeaſes. But unfortunately for the poor ſufferer, we know too little of the nature and properties of the animal fluids to ſpeak with any great degree of certainty of them; and the fluids in almoſt every diſeaſe are in ſome parts of the body acrid and too thin, while in other parts of the ſame individual they are too viſcid; the ſolids are too tenſe in ſome places, and over lax in others. This occaſions various diſeaſes, which have their names from the different parts affected, and is the reaſon why things good for one part of the body may be hurtful to another. A due conſideration of the ſtate of the ſolids and fluids, is, no doubt, a matter of great importance to phyſicians, not only in chronic, but alſo in acute diſeaſes. Suppoſe, for example, that the juices are ſound and good, but the ſolids are laxer and weaker than they ſhould be, then the digeſtion, circulation, perſpiration, and ſecretions will be weaker; the food will not be ſufficiently broken and digeſted in alimentary tubes, the blood not ſufficiently divided by the force of the circulation, nor the excrements thrown off with due force and in proper quantity to purify the juices. Again, ſuppoſe the blood and juices are viſcid, ſharp, and illconditioned, the fibres in the mean time ſubſiſting in their proper tone, then obſtructions will be formed in the capillary veſſels, which will, by degrees, break and looſen the texture and relax the tone of all the ſolids. This is good and plauſible theory, but ſuch as can never be verified in fact, as theſe two ſuppoſitions can never happen in nature. For the fluids can never be in a healthy ſtate when the ſolids are too rigid or too lax; neither can the fluids be all acrid or all viſcid, nor the ſolids all lax or all tenſe. All theſe cauſes conſpire in ſome degree to form every diſeaſe, but according as the ſymptoms ariſe from this or that general cauſe, they receive their names from phyſicians, and the particular ſymptoms indicate the height and ſeverity of the diſeaſe. For a diſeaſe cannot exiſt without ſymptoms, or ſymptoms without a diſeaſe, which is known by its effects, and theſe effects muſt neceſſarily have their cauſes. But our knowledge of cauſes is very imperfect, and our reaſoning upon them muſt conſequently be attended with much uncertainty. By the laws of mechanics, it appears that the force of any ſolid bulk is as bulk to bulk, and as the force, ſo is the reſiſtance of one body to another as bulk to bulk, therefore the proportion of a ſolid to a contained fluid increaſes as the veſſels grow narrower. Hence the circulation in the ſmaller veſſels ought to be very rapid, which is ſo far from being true, that it is very languid and irregular. In the larger arteries and blood-veſſels the circulation is, I believe, pretty regular, but in the ſmaller veſſels it proceeds as it were by ſudden and irregular fits and ſtarts; in ſome parts of the body it circulates, while in others it may remain quite ſtagnant. 'Tis a very common ſymptom, particularly in nervous diſeaſes, to perceive a throbbing and beating as if ſomething was alive, in one part of the body, which ariſes from the fibres of the veſſels contracting themſelves more forcibly in order to throw off ſome offending matter, which was formed by the fluids remaining too long in that part by reaſon of the relaxed ſtate of the ſolids, which in truth is the caſe over all the body. The circulation is quicker and ſlower, and perhaps ſtagnates in the ſame perſon in different parts of the body at the ſame inſtant of time. In ſome parts the coats of the veſſels may be much relaxed, in others tenſe; in ſome the fluids may be thin and acrimonious, while in other parts of the ſame body they may be viſcid. Obſtructions beſides thoſe of the ſchirrous kind may be of a long ſtanding in the body, without tending to either inflammation or putrefaction, and the perſon will not perceive the leaſt uneaſineſs from them, provided they are ſuffered to lie dormant; but as ſoon as they are opened and the obſtructing matter put in motion, it then changes its innocent indolent nature, is converted into a very active and hurtful one, which affects the juices of the body ſomewhat like the virus of the ſmall-pox. Therefore when the obſtruction is opened, the morbid matter ought quickly to be evacuated.

THE human body is an excellently contrived machine which performs innumerable operations far beyond the reach of our conceptions. After duly conſidering the frame and texture of the human body, its conſtituent members and component parts, with their ſeveral offices, functions, and operations, we fancy we conceive, how the commixture of ſubſtances, the ſolid and fluid parts, the digeſtion of the food, the proceſs of chylification, and ſanguification, the changes of lymph into blood, and the blood into ſerum, &c. are performed. But alas! our knowledge is very imperfect, and ſometimes very deluſive. Yet if we obſerve the phyſical writers we find that they ſpeak of the nature, qualities, and mechaniſm of the human body with as much confidence as a watchmaker would of a watch, or a chymiſt of an alembic, or any other utenſil in his laboratory. The ſlighteſt look into anatomy will convince us that we are not clock-work, or ſuch machines that have a peculiar pendulum or regulator to govern our motions by. Our great ignorance of the animal machine is conſpicuous in almoſt every thing we do. For example, the moſt judicious and experienced ſurgeon has it not ſometimes in his power to check a very trifling inflammation from producing matter; and again, when he wiſhes to bring on a ſuppuration it defeats all his efforts, nature rejects his counſel, refuſes his offers, and laughs at his folly. And if this be the caſe in external inflammations, where we have the advantage of local applications, its not to be wondered at that ſhe often baffles our beſt deſigns, or rather what we think to be beſt, in the treatment of thoſe within. Our knowledge of the fluids is too limited to enable us to determine in what manner thoſe changes are produced; and if we ſpeak ingenuouſly, we cannot avoid confeſſing, that we are but imperfectly acquainted with them in their natural ſtate; how then can we preſume to ſpeak affirmatively of their morbid, and explain the degrees of alteration they undergo? The reader, who is fond of hypotheſis, will not reliſh this unpleaſing confeſſion, but the candid and experienced will allow its due force, and be content with what his ſenſes teach him, without loſing time in vain reaſoning and endeavours to account for phenomena, which perhaps may ever remain inſcrutable to us.

Our moſt plauſible theories are often precarious and deluſive, for they rather tend to confound than improve the judgment, and to obſcure an art, that ſhould be chiefly founded on penetrating obſervation and faithful deſcription. One Sydenham, a faithful recorder of facts, has merited more by obſerving and following nature, attending to the life what his eyes ſaw and fingers felt, than all the hypothetical writers united. As a proof of this, we need only recollect the numberleſs ridiculous and inconſiſtent theories that have ſucceſſively ſprung up, all which had their patrons for a time; but dwindled by degrees into diſrepute and oblivion, in proportion to the advances of more plauſible conjectures. We talk of alterative medicines, and preſume to account for their manner of operating; but 'till we are better acquainted with the nature of the fluids circulating in the animal body, we can talk with little propriety of the acrimony of the juices, or their depraved ſtate. Nor can we conceive how a few grains or drachms of moſt medicines given for that purpoſe can act upon them, when blended with ſo much of the animal blood and juices; and to reaſon upon it is as unintelligible as the black witches and white witches in Macbeth. Indeed the remote cauſes of internal diſeaſes and the operation of medicines beyond the ſtomach and bowels remain yet, in moſt inſtances, merely conjectural, and perhaps in many caſes entirely unknown, yet every grain of certainty in phyſic will ever be received with tranſport, when we conſider how little abſolute certainty we really poſſeſs. Any perſon at all acquainted with the power of medicines, even from his own experience, knows how extremely difficult it is to aſcertain their medicinal properties, as the ſame medicine has different effects not only in different conſtitutions and different diſeaſes, but alſo in different ſtages of the ſame diſeaſe. In ſhort, there are ſo many circumſtances to which we either do not or perhaps cannot ſufficiently attend, which vary their operation and effects, that we are frequently diſappointed in our expectations even of thoſe medicines with which we are beſt acquainted. And when we come to compare the virtues ſo warmly and poſitively aſcribed to particular medicines with our own experience, how miſerably do we find ourſelves deceived? In truth, nothing is ſo difficult to aſcertain as the true virtue of medicines; our fondneſs for many of them too often riſes in proportion to our own credulity, ignorance, and prejudice. It gives, I muſt confeſs, but an ill impreſſion of phyſic, to ſee medicines have their faſhions, as the cut of a coat and the cock of a hat; yet I do not mean to degrade the art of phyſic, being fully ſatisfied that art, judiciouſly applied, may often aſſiſt nature by means of a very few ſimple medicines, yet I am at the ſame time well perſuaded, that much medicine, or an injudicious jumble of drugs, is only a load upon the conſtitution, and frequently defeat the very intentions of nature, which of herſelf, or with very little aſſiſtance, would in general ſoon work her own deliverance; but when a load of ſuppoſed remedies are added to the diſeaſe, they act hand in hand, and from their aid the diſorder becomes too violent for nature long to ſupport itſelf againſt ſuch oppoſition, and muſt at laſt ſubmit and fall a ſacrifice to ignorance and blind credulity. The apothecary's ſhop is, in my opinion, the worſt diſeaſe the human body is ſubject to. The bulk of mankind ſeldom or ever err in their judgment of things; accordingly we ſee that people in general diſlike phyſicians, as ſuch, and abominate the very thoughts of ſwallowing medicines. This ariſes from an inherent notion, ſtrongly confirmed by obſervation, that phyſicians are of leſs ſervice than they are willing to have it believed, and that medicines do ſometimes more hurt than good. They frequently ſee them baffled in their beſt endeavours, and no wonder if they ſhould ſo often miſcarry, when the nature of the animal oeconomy is ſo imperfectly underſtood. Two thouſand years are elapſed without any conſiderable improvement being made in the cure of many diſeaſes; and we cannot help lamenting the uncertainty of an art which is not yet fixed upon the eſtabliſhed principles of ſcience. It is genius, and not the want of it, that adulterates phyſic, and fills it with error

and

and falſe theory. A fertile imagination deſpiſes the ſervile office of digging for a foundation, of removing rubbiſh and carrying materials; he leaves theſe mean employments to the poor drudges in ſcience, and plans a deſign and raiſes a fabric. Invention ſupplies materials where they are wanting, and fancy paints it in beautiful colours. The work pleaſes the eye, and nothing ſeems to be wanting but ſolidity and a good foundation. In grandeur and invention it ſeems even to vie with the works of nature, 'till the malignant hand of ſome ſucceeding architect tears it up from the foundations, that he may build a goodly fabric of his own, equally airy and ſuperficial. If therefore to unravel the cauſe of every diſeaſe is not in the power of the human mind, if the labyrinth is too intricate, and the tread too fine to be traced through all its windings, would it not be acting more prudently to ſuppreſs vain curioſity, and not preſume to fly on the wings of fancy, into the ſecret receſſes of nature? Had the generality of phyſicians, who for ages paſt have racked their brains to no purpoſe, in order to diſcover remote and latent cauſes, made ſimple and obvious effects the rule and ſcope of their reſearches, what a fund of uſeful knowledge would have been amaſſed together by this time. It may ſeem ſtrange that in ſo long a period they ſhould not have perceived that they have no faculties adequate to ſuch ſublime enquiries, but that all the truly uſeful knowledge they can ever hope to gain is only to be had from obſervation and experience, every thing elſe being liable to be controverted, as exiſting only in imagination. Whatever others may think, I am fully perſuaded that the ſecret operations of nature are better illuſtrated by the manifeſt light of fact and experience, than from any dazling theory of the moſt brilliant imagination; theſe alone can direct us ſafely in our reſearches, while the latter, like an ignis fatuus, will miſlead us if we depend too much upon ſuch illuſions.

THAT I may not ſeem to ſay all this without ſufficient reaſon to warrant it, I ſhall here produce a few inſtances out of many to ſhew the uncertainty of theory. One phyſician will tell you, that the ſeat of all diſeaſes is in the fluids; another ſays No, all diſeaſes ariſe from ſome fault in the ſolids. One adviſes a good deal of bread with our meat and a glaſs of wine after it; preſently appears a Cadogan, who ſays, ſuch a practice is abſolutely poiſon and certain death. In ſhort, ſo remarkably are phyſicians divided about the wholeſome and unwholeſome, that there is not any one thing a perſon eats or drinks that is not recommended by ſome and condemned by others. Some pretend to give elective phyſic, that will purge and carry off any particular humour, as choler, phlegm, melancholy; but this doctrine was ſoon exploded as ridiculous and whimſical, and purgative medicines are now ſuppoſed to differ only in degrees of ſtrength, and operate no other ways upon different humours than as they ſtimulate more or leſs. The ſmall-pox by ſome is ſuppoſed an inflammatory fever, by others a putrid. One phyſician tells us that the gout ariſes from a defect in the ſolids, while others believe it to ariſe from an acrid humour circulating in the blood. I remember ſince all diſeaſes were called nervous, and every pain gouty. Some will have every diſeaſe to ariſe from worms, and dream of nothing but them. Our ancient phyſicians, for whom the moderns have ſo great a veneration, were much upon a level with the preſent in their knowledge of diſeaſes, if we impartially examine their writings. Hippocrates or Galen, two venerable gentlemen, notwithſtanding the latter writ two hundred volumes, made full as many blunders as our modern practitioners, who have their favourite diſeaſes and medicines; yet I muſt confeſs, and in honour of Hippocrates be it ſaid, there is not a ſymptom in any diſeaſe, which he has declared mortal, that is not at this day found to be ſo. The occult qualities which the primitive phyſicians were ſo fond of, were their very good friends, and aſſiſted them with many a dead lift, though occult qualities, innate ideas, &c. are the mere cobwebs of the brain. Some ſay, that the origin and cauſe of a pus, or matter, is produced from the diſſolution of ſome of the ſolid parts of broken capillary veſſels, and a mixture of ſome part of the juices circulated through them, and never happens without ſome degree of eroſion, and ſome breach or diviſion in the natural ſtructure of the parts. In abſceſſes it is ſuppoſed to be formed from the fluids oozing out of the ruptured veſſels, which have undergone their utmoſt diſtenſion, and are forced to yield to the fulneſs and obſtruction formed in them. In wounds the matter is ſuppoſed to iſſue directly from the divided blood veſſels, conſtricted ſo as to retain the red blood, and to ſuffer only the ſerous part and lymph to paſs. To this doctrine another objects and ſays, was it only the ſimple effuſion of the ſerum and lymph eſcaping through the mouth of the divided blood and lymphatic

tic veſſels, as in freſh wounds, it ought to be the greateſt at that time, and to diminiſh as the conſtriction of the blood veſſels becomes gradually greater. But the reverſe of this is the truth, for as ſoon as the flux of blood ceaſes in the divided part, the firſt diſcharge is generally very ſmall and ſparing, and ſometimes wholly wanting, but as ſoon as warm dreſſings are applied, the diſcharge of pus is greatly promoted. He therefore is inclined to think that pus or matter is the ſerum of the blood converted into a different humour by ſome more complicated means than that of paſſing through the conſtricted orifices of the blood and lymphatic veſſels, ſeeing it recedes moſt from the nature of ſerum when it is moſt copiouſly diſcharged; which ought to be quite the reverſe, if it was nothing but ſerum paſſing through the orifices of the ruptured or divided veſſels. To account for the difference of pus from ſerum, and its greater ſpecific gravity than the ſerous part of the blood, it has been aſſerted that pus was formed of the ſerum of the blood mixed up in the wound with the abraded parts of the ſolids. This ſuppoſition he alſo rejects for this reaſon, becauſe at the time the pus is moſt perfect, the ſolids are ſo far from appearing to ſuffer by ſuch abraſion that they are in an increaſing ſtate, and inſtead of the deſtruction of the old parts, which muſt be the caſe if they furniſhed matter to the pus, the generation of new fleſh always attends; ſo that well conditioned pus is made up of juices only, not of a mixture of fluids and ſolids. Hence he concludes, that pus is produced by a joint mixture of ſerum with a fatty ſubſtance, or with that gelatinous fluid of the tela celluloſa, which is generally found to be the ſeat of purulency; by this ſuppoſition the quality, conſiſtence, and ſpecific gravity of matter may be accounted for. But this conjecture, how plauſible ſoever, cannot account for the formation of pus upon the membranes within the body, as the pleura, peritonæum, &c. without any apparent breach or diſſolution of the ſolids.

THE famous diſpute between the Galiniſts and chymiſts is even yet not ſatisfactorily determined. The Galiniſts maintain that diſeaſes ought to be removed by evacuation, and by carrying off the offending matter by bleeding, purging, &c. The chymiſts condemn that practice, and ſay, that nature is thereby debilitated and rendered unable to cope with the enemy, which acquires more and more ſtrength, as the powers of nature are proportionably weakened. They ſay that in all diſeaſes nature is in a hurry and tumult, which ariſes from the efforts and ſtruggles ſhe makes to relieve herſelf, which muſt terminate in a criſis one way or other, therefore they maintain that the beſt way to cure diſeaſes, is to aſſiſt the powers of nature to throw off the offending matter. Here are two oppoſite theories, each of which is in fact, partly true and partly falſe. In inflammatory diſeaſes and in plethoric habits;

habits, it is neceſſary to begin by evacuation according to the ſtrength of the patient and height of the diſeaſe, and then to aſſiſt nature by ſtimulating deobſtruent medicines, to throw off the remains of the complaint. As all motion in the animal body ariſes from irritation, ſo all medicines operate by increaſing that irritation, therefore the more ſubtilized and finer the component parts of a medicine are, the more efficacious it will be, becauſe from the minuteneſs of its parts, it is adapted to reach the fineſt veſſels, where the obſtructions are principally ſeated. I believe there is not in nature a medicine better adapted to act as a deobſtruent than the powder, I ſhall have occaſion, by and by, more particularly to mention.

Various are the opinions concerning the manner in which bleeding is ſtopt. It has been long received as an eſtabliſhed doctrine, that upon ſhutting up the mouths of conſiderable blood veſſels by ligature, ſtyptics, or preſſure, nature forms a coagulum at the extremity of the veſſel which prevents any future bleeding; but M. Pouteau refutes this doctrine, and has ſubſtituted another in its place; he ſays that the ſwelling of the cellular membrane which ſurrounds the artery both above and beneath the ligature, forms a much ſtronger dam at the extremity of the artery than any cake of blood can do, as it ſoon produces an induration upon the circumference of it. This certainly is a very important point in practice, and in which ſurgeons are by no means agreed. Some are for including a large portion of fleſh with the ligature, others a leſſer portion, and ſome none at all. The principal objection to the ligature, which includes a portion of fleſh, is, that ſometimes it takes in the nerve or ſome tendinous or aponeurotic expanſions, in conſequence of which, it is ſaid, the great pain, inflammation, and convulſion, frequently enſue. But the great Haller affirms, that the tendinous and aponeurotic parts are abſolutely inſenſible, contrary to the long eſtabliſhed doctrine of theſe parts being not only very ſenſible, but the very ſeat of ſenſation itſelf.

It was diſputed, and is not yet abſolutely determined, whether the human calculus or the chalky matter, that remains in the joints after a fit of the gout, partakes of ſalt or not. Chemiſtry has not I believe been able to obtain the leaſt grain of ſalt in it.

Again, the very fundamental principle of all phyſic is not uncontrovertibly ſettled. Some affirm that all medical ſubſtances operate by their ſpecific gravity, that is, by that natural ponderoſity and heavineſs that preſſes a particular body or ſubſtance, together with whatever matter it finds in its way, downwards or towards the center. Phyſicians that adopted this hypotheſis, gave large quantities of quick-ſilver in obſtructions of the bowels, and thereby did perhaps great hurt. For mercury in its own proper nature will never operate downward, unleſs ſome ſaline ſubſtance is joined with it; but beſides it muſt aſcend in a perpendicular direction, before it can paſs through the bowels. Others ſay, that by the beſt and moſt accurate anatomical obſervations, it appears that all medicines continually advance towards the circumference. In diſſecting of ſubjects, who in their lifetime, dealt pretty largely in mercurial preparations, we find that it has left little holes in the veſſels or outlets through which it has paſſed in its operation; which plainly indicate that mercury in its operation advanced in a progreſſive courſe from the center or ſtomach to the circumference.

LEUWENHOECK, in the membranous expanſion that ſerves inſtead of a wing to a bat, has obſerved the firſt tendency to reſolution in the blood, which had been totally coagulated by cold. At firſt he could perceive no motion either in the arteries or veins, until the animal, reviving by degrees, he beheld an oblong maſs of concreted blood which filled the whole cavity of the artery, begin to move backwards and forwards in the veſſels, which by their ſucceſſive contraction gradually diſſolved the coagulum ſo as to render the whole fit for circulation. Now let us hear the other ſide, and attend to a new theory of inflammations. Boerhaave, whoſe theory of inflammation has been the eſtabliſhed doctrine above theſe forty years, ſays, that whenever there is a ſwelling attended with pain, heat, and throbbing of the part, there is more or leſs obſtruction in the veſſels, through which the fluids ſhould circulate. This is either cauſed by their too great thickneſs, which prevents their free paſſage through the veſſels, or by the force of the circulation, which impels them into thoſe veſſels where they ought not to enter. Theſe are the firſt general ſources, according to Boerhaave, of all inflammations. This he thinks is moſt evident in an inflammation of the eye, where the red blood, in the white of the eye, is forced into veſſels, deſigned only to receive the lymph or thinner parts of the blood. Whenever therefore an obſtruction is once formed in the capillary or ſmall veſſels of the body, whether ſanguinous or lymphatic, a ſwelling is produced, which is gradually increaſed by the impediment the fluids meet with in the obſtructed veſſels. Hence ariſes a total ſtagnation in ſome, and a partial or ſlow circulation in others, and unleſs this obſtruction to the paſſage of the fluids be ſoon removed by nature or art, the veſſels having undergone their utmoſt diſtenſion, will be forced to yield to the load of the impacted fluids, and at laſt to burſt; and in this caſe, a ſuppuration or collection of matter is formed in conſequence of the fluids iſſuing from the ruptured veſſels; but if they continue ſhut up without giving way ſo as to prevent the ingreſs of the fluids, which ſhould circulate through them, a mortification is produced. This account was thought to be ſo ſimple, juſt, and plain, as probably to remain as unalterable as nature itſelf. But alas! ſuch ſeems to be the fate of hypotheſes, that there can be no dependence on their permanency; for a new theory of inflammations is now eſtabliſhed upon the ruins of the Boerhaavian and all former ſyſtems. The patrons of this new invention agree with him, that the cellular membrane is the moſt common ſeat of inflammations; but that they ariſe from a particular ſpaſmodic ſtate of the nerves and blood veſſels occaſioned by continued irritation. Thus a thorn externally lodged in the finger will frequently bring on a great inflammation. In this ſpaſmodic ſtate of the nerves, their ſenſation is increaſed to ſuch a degree that their perceptive power, which before was indifferent or pleaſing, becomes uneaſy and painful. Theſe effects may be produced by any irritating ſubſtance applied to or lodged in the body. Inflammations of the internal parts depend upon the retention of ſome acrimonious humour or obſtructed perſpiration, which falls upon ſome particular viſcus or membranous parts; by its ſtimulus, the contraction of the ſmaller veſſels will be neceſſarily increaſed, and conſequently a greater quantity of fluids will circulate through them; hence the force of the blood will be greatly increaſed, the veſſels themſelves dilated and diſtended, and thoſe which have orifices opening into the cells of the adipoſe membrane, and which naturally exhale a thin fluid only, will now ſuffer the red blood to paſs through their extremities into the cellular cavities. This extravaſation of the blood into the cellular membrane has been demonſtrated by Haller in different inflammatory affections. They ſay further, that it is contrary to obſervation to believe that an inflammation ſhould ſucceed to an obſtruction without a previous irritation. In ſhort, they will have it that the heat, pain, tenſion, ſwelling, and obſtruction of the circulating fluids, are ſymptoms that ariſe in conſequence of ſpaſms, and are not produced originally by a viſcid ſtate of the blood, obſtructed in the capillary veſſels. An increaſed circulation in the larger veſſels is alſo a conſequence, not a cauſe of inflammation, ſince if the inflamed ſwelling be conſiderable, the whole nervous ſyſtem will be affected by pain, the heart and large arteries will become more irritable, and their contractions more frequent and ſtrong. This laſt hypotheſis ſeems rationally to account for inflammations; for if chylification, circulation, &c. is carried on by irritation, then by increaſing that irritation, the circulation will become unnatural, and the ſecretions and excretions irregular.

However from this diverſity of opinions, in almoſt every branch of the ſcience, we may reaſonably conclude that the cauſes of diſeaſes are and perhaps will remain out of the reach of our knowledge. And though hypotheſis and conjecture may ſerve to amuſe the imagination, yet it is obſervation and experience only that can inform the underſtanding. The former may make a man entertaining to a few, but the latter will render him uſeful to many. Inſuperable difficulties there are which muſt attend our feeble efforts in endeavouring to account for the ſeveral phænomena in nature. Not leſs difficult perhaps is the taſk of reconciling the influence of the nerves upon the blood veſſels, than of the paſſions of the mind upon the body. And will any one preſume to account for any of them? Many circumſtances might be produced to ſhew our ignorance of the operations of nature and of the mechaniſm of an animal body formed by an almighty artificer. Many things muſt be referred to the original conſtitution of our frame, or the laws of union between the ſoul and body; nor ſhould it be wondered at that we can ſcarce gueſs with tolerable probability at numberleſs phænomena in the human machine, when it is no more than what occurs to us daily in our enquiries into the obſcure operations of nature. If this then be the caſe, it behoves us therefore to be upon our guard againſt ſpeculations of this kind, as a fertile brain or luxuriant imagination will otherwiſe while it amuſes frequently impoſe upon us; and we are too prone to embrace ſuch phyſical illuſions as flatter our vanity, when the reality is not to be attained.

MEDICINES fare the ſame fate as diſeaſes; ſometimes one medicine is in vogue, and ſometimes another. Some ſay the practice of phyſic would not be worth following, if it was not for the jeſuits bark, others believe the whole art lies in the uſe of opium. The preſent faſhionable medicine is fixed air; by and by ſomething elſe will appear and have its time. I would not from hence have the world believe that I undervalue medicine in general; no, I am thoroughly convinced of the power and efficacy of medicine when judiciouſly applied in nature's aid; for our good friend Nature, with time and patience and a little aſſiſtance, as ſhe calls for it, performs more cures than all the phyſicians put together, and this the wiſeſt practitioners know. The human ſpecies would certainly enjoy a greater ſhare of health, if there were fewer phyſicians and leſs phyſic. And I cannot but admire the prudence of the Roman emperor who excuſed the phyſicians from the baniſhment, which he intended to the reſt of the people. When he was aſked why thoſe gentlemen ſhould be better uſed than the reſt, he anſwered, *If I baniſh the Phyſicians, Rome will ſoon grow too populous.* The nature and cauſe of a diſeaſe is often miſtaken, and one diſeaſe goes for another, whereby many great evils are brought about. The phyſician may be often compared to the perſon, who being in exquiſite pain took a dagger to ſtab himſelf, but in place of killing himſelf, opened an impoſthume, the unknown cauſe of his pain, and ſo ſtabbed himſelf into health. This is the caſe ſometimes no doubt, but it is oftener the fight againſt nature, benificent nature, which is perpetually acting for our good and welfare; and is ſo deſirous to preſerve herſelf, that we ſee her, when diſappointed of relief by one evacuation, inſtantly flying to another. When perſpiration is obſtructed, urine flows in great plenty. When the bowels are obſtructed or the ſtomach loaded, reaching comes on, and ſo of all the reſt. And I am well convinced that the author of nature hath formed theſe mouths, paſſages, and excretions, to afford a ſalutary diſcharge to all ſuperfluous and noxious humours, when it was requiſite for health; and I can aſſure you I had rather truſt to the aſſiſtance of kind nature than to two thirds of the phyſicians; for I do ſincerely believe that by paying proper attention to the non-naturals I ſhould be in leſs danger without than with many phyſicians who diſpatch recipe after recipe with no other intention than to plunder the apothecary's ſhop, and fill the patient's belly with a huge aſſemblage of all ſorts of unpalatable meſſes, which interrupt and diſturb nature in her ſalutary work; and if, as good fortune will have it, ſhe works her own deliverance, and proves too ſtrong for the phyſician's preſcriptions, as a reward for her labour ſhe is robbed of her due praiſe; for phyſicians frequently obtain a name for cures performed by accident, or by nature, which is the beſt and ſureſt guide to a judicious phyſician, who will diligently and carefully follow her, becauſe whenever ſhe finds herſelf oppreſſed, ſhe endeavours to diſlodge the enemy, and for that end tries all the neareſt and propereſt means; and it is wonderful what a number of outlets and drains nature has furniſhed for the preſervation of health, or the recovery of it when loſt. Such are moſt or all the glands by which ſecretion is performed. And though it is the buſineſs of the phyſician diligently to attend to, obſerve and aſſiſt nature, yet ſhe is not to be compelled, but muſt herſelf be the beginner, and ought very often to be the finiſher of the work; yet many of our phyſicians would have us believe that nothing is to be done without the aſſiſtance of the apothecary's ſhop, and they run from one thing to another; as ſoon as one thing ſeems to fail, they fly to another, without ſometimes giving thoſe very medicines that would be of ſervice, either time or chance to do good; and it would appear that they are more anxious to take a catalogue of the apothecary's ſhop than to recover the patient. And how can it be otherwiſe, when the modus operandi of medicine and the cauſe and ſeat of diſeaſes are ſo little known? Phyſicians differ ſo often in their opinions, that it has given riſe to the common proverb, *Doctors differ.* If you call two, or more phyſicians, 'tis ten to one if every one of them has not a different notion of the complaint, and if miraculouſly they happen to agree in their opinion of it, they will certainly differ in their manner of treatment. If ſome ingenuous gentleman would write againſt the too frequent uſe of medicines, the public would be more indebted for ſuch performance, than to the whole tribe of books wrote by Hippocrates, Galen, or any of their followers. As the worſt of diſeaſes is the apothecary's ſhop, in what a melancholy ſituation muſt the unhappy victim be when the phyſician is groping in the dark, and throwing in ſhoals of medicine; the ſtrength of conſtitution will now and then get the better of it, and ſupport the ſhocks of the whole medical artillery, like a fortification that is bomb-proof. All that I can ſay againſt the filling the patient's belly with medicines, will not, I fear, have its deſired effect; becauſe I know there are many ſo phyſically mad, that they believe they could not live one day without a medicine from the apothecary's ſhop; I know ſome that fancy they could not ſleep one night, if the apothecary neglected to ſend their night-draught; and ſo great is their credulity, that if a little bread taken from their own tables, mixed up with ſome ſimple water and a little ſyrup, with a label tied to the bottle, it would anſwer extremely well. The family of the Wrong-heads is, and no doubt will continue to be, very numerous; and as there are many more fools than philoſophers, therefore many phyſicians, that would willingly diſabuſe people concerning their credulity about phyſic, dare not do it leſt they ſhould loſe all their practice. Accordingly the trading phyſician, being ſure of the apothecary's ſupport, ſends a long preſcription every time he comes, and expects a fee; and if the patient had only an imaginary complaint before, he is ſure ſoon to have a real one. Some are ſo fooliſh that bolus after bolus, pill after pill, draught upon draught, will not ſatisfy them, except they have a frequent correſpondence with the cloſe-ſtool. Some are ſo very extravagant in their demands, that they have no opinion of their phyſician except he goes through the whole exerciſe of ſhitting, piſſing, ſpewing, ſweating, bleeding, bliſtering, &c. and theſe people are never at a loſs to find phyſicians to preſcribe medicines in ſpight of nature and their ſtars. Yet there are no doubt ſome who will not barter their conſciences for the golden fees, but will do honour to themſelves and juſtice to their patients; who will act with caution and diffidence, and attend to nature as his beſt director, and hear with patience what the patient has to ſay, for he is the beſt guide to his phyſician, and ſhall, with my conſent in moſt caſes, be his own, ſo far as to direct what ought to be done, tho' he perhaps is ignorant of the means to accompliſh it. A phyſician that purſues this courſe is not likely to get ſo rich, as one that talks and acts as conceitedly and dogmatically as if he ſaw your complaint as plainly as he does your face; for more people are taken with talk and appearance than with modeſt and diffident merit.

> Diſtruſtful ſenſe with modeſt caution ſpeaks,
> But rattling nonſenſe in full vollies breaks.

The intereſt of the apothecary and phyſician are ſo connected that they play into one another's hand. The laſt never loſes an opportunity to cram loads of medicine down the throats of his patients, and the other miſſes no occaſion to recommend him, and the patient is crucified between two thieves, and remains a victim bleeding upon the altar, till he has made expiation to Avarice, the god of the deſcendants of Æſculapius. This inconveniency may be avoided by every family having their own phyſician, and allowing him ſo much yearly for his attendance. Then he will not be forced to comply with the mercenary hopes of the apothecary, as he will then be leſs dependent upon him. This mercenary practice has raiſed ſo great an averſion in mankind to phyſic and phyſicians, that ſometimes when it might be of real uſe they cannot prevail upon themſelves to take it. They obſerve, when phyſicians are ill they take few medicines, but put more confidence in nature than they are willing their patients ſhould do; and daily experience teaches them how unſucceſsful the moſt eminent phyſician's preſcription proves, when nature withdraws her aid, and that in general ſhe ſtruggles as ſucceſsfully for victory over the complaint, when left to herſelf, as when ſhe has the united aid and ſkill of the wiſeſt ſons of Æſculapius. From hence they do haſtily conclude that it is all a cheat and farce in order to pick the pockets of the credulous. Another inconveniency which attends the practice of phyſic is, the liberty which apothecaries take with the preſcriptions of phyſicians in ſubſtituting medicines of the ſame virtues, as they ſuppoſe, for thoſe in the preſcription, when they have them not. It is alſo a dangerous thing to truſt the making up of medicines, powerful in their effect, to raw unexperienced apprentices. I therefore think it right and not beneath a phyſician to have under his own care all the chymical preparations, and thoſe of powerful effects, that he may know from what is given what he has to expect.

CHAP. VII.

Man by Nature ſubject to few Diſeaſes. Irregularity the general Cauſe of Diſeaſes. Diſeaſes ſimple in their Nature. Obſtruction gives riſe and is itſelf the ſource of every Diſeaſe, proved by an enumeration of the Symptoms of each Complaint; to which is added a Method of Cure in each particular Caſe. An attempt to reduce Phyſic to certain eſtabliſhed Principles.

WHEN I take a view of the brute creation I find that they are by nature ſubject to few diſeaſes, therefore I conclude, that moſt of the diſeaſes incident to man are the purchaſe of our predeceſſors and deſcend to us by inheritance, or are procured by our own intemperance. Obſerve the domeſtic animals, dogs, cats, horſes, cattle, they are ſubject to very few diſeaſes; and to what is that owing? It

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is owing entirely to their having nature for their phyſician, temperance for their guard, and are not poiſoned with the apothecary's ſhop. High feeding, rich ſauſes, luxury and intemperance are the cauſe of moſt diſeaſes.

———— For moſt diſeaſes
Dwell where luxury and eaſe is.

Luxury and idleneſs are ſworn friends to the phyſician, and fancy and folly fill his pockets. One of the Scotch proverbs ſays,

The beſt phyſicians are doctor Diet,
Doctor Merriman, and doctor Quiet.

It is a ſhame, ſays the archbiſhop of Cambray, for man to have ſo many diſeaſes. For a ſober life produces ſound health, and intemperance changes into a deadly poiſon, what was deſigned to preſerve life. Immoderate pleaſure ſhortens a man's days more than the beſt medicaments can prolong them. The poor are ſeldomer ſick by the want of food, than the rich are by the exceſs of it. Meats that are too reliſhing, and which create an immoderate appetite, are rather a poiſon than a nouriſhment. Medicines in themſelves are really miſchievous, and deſtructive to nature, and ought only to be uſed upon preſſing occaſions : but the grand medicine, which is always harmleſs, always uſeful, is ſobriety, temperance in pleaſures, tranquility of mind, and bodily exerciſe ; by theſe the blood is ſweetened and preſerved in good temperament, and all ſuperfluous humours are diſſipated. This regimen will render medicine in a manner unneceſſary, and the phyſician who recommends it will do much real ſervice to his fellow creatures. O Temperance! thou ſupport and attendant of other virtues, thou preſerver of health and reſtorer of it when loſt, thou friend and companion of reaſon and ſupporter of the dignity and liberty of rational beings from the wretched and inhuman ſlavery of ſenſuality, thou brightner and burniſher of the underſtanding and memory, thou cordial of life, and ſweetener of all its comforts, thou companion of reaſon and guard of the paſſions, thou bountiful rewarder of thy admirers and followers, thy excellencies extort even a panegyric from thy enemies *.

I WOULD not be underſtood to mean that temperance will prevent or remove all complaints. No, as long as there are different conſtitutions there will be ſome healthier than others. One conſtitution is more or leſs liable to this or that diſtemper, according to the various diſpoſitions of the fibres or ſolids, for ſome diſeaſes are attendant upon a rigid, others upon a lax fibre. The gout, for example, which is unjuſtly called the opprobrium medici, may

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* Plato ſays, " Multa corporibus incommoda propter intemperantiam accidere, contra vero bona plurima ex temperantia provenire. Temperantiam vocat Σωφροσυνην quaſi ſalutem quandam & conſervationem prudentiæ. Ideoque ab iis colendam eſſe docet, qui cupiunt vitam fælicem traducere."

may be either hereditary or acquired. One may be born with rigid tenſe ſtamina, and the coats of the veſſels may be ſo elaſtic as to contract and narrow their internal cavities ſo much that the circulating fluid ſuffers too great an attrition and colliſion, and the gout or gouty particles are thereby formed in the blood, which circulate awhile in the conſtitution, and there accumulate, till by the ſtrength and increaſed contraction of the ſolids, they are thrown upon the extremities, or lodged in ſome particular part of the body, and form what we call a gout. This rigidity of the ſolids or conſtitutional tendency to the gout may be artificially induced upon us by drinking ſpirituous or other intoxicating liquors, high food, rich ſauces, &c. Again, a lax fibre may be either hereditary or acquired. One may be born with lax and delicate veſſels, but moſt commonly it is acquired by eating more than the ſtomach is able to digeſt, for no part can be overſtretched or overloaded without being relaxed and weakened, and the veſſels being in that ſtate, ſuffer the fluids to paſs through them imperfectly ſecreted. This I lay down as the primary cauſe of diſeaſes, except infectious diſeaſes ariſing from bad air, &c. and upon this foundation my practice is built, and by viewing them in this light, they may be reduced to more certain and leſs intricate principles. For diſeaſes are very ſimple in their nature, and ariſe from as ſimple cauſes, which when they are known, are in general not difficult to be removed if taken in time. 'Tis the ſymptoms that confound us, and are like the luxuriant branches of a well grown tree, all which ariſe from one root; if we can point a ſharp inſtrument at the root, the tree falls, and along with it the branches. So it is in diſeaſes, if we can apply a medicine effectual enough to reach the ſeat of the diſeaſe and remove the cauſe, the complaint gives way, and along with it all its ſymptoms; and if upon examination we ſhall find that moſt diſeaſes flow from one common fountain, and have one or the ſame general origin, to wit, obſtruction; and if at the ſame time we can find a few medicines that are powerful enough to open obſtructions either of the viſcera, nerves, glandular parts or minute veſſels, which are moſt remote from the heart, we ſhall be able to remove every complaint where the conſtitution is not too far impaired to leave it in the power of medicine to reſtore it. The effect this one general cauſe produces is different according to the different parts affected, and ſo occaſions various nominal diſeaſes, which go by different names. Some are of opinion, that obſtructions cannot be formed without a preternatural heat or inflammation, but that ſeems to be falſe, for no obſtruction can produce an inflammation, except ſo far as it raiſes an unuſual irritation, for an inflammation is not owing to an increaſed force of the heart and larger arteries conſequent upon an obſtruction, but to the increaſed oſcillatory force in the ſmall veſſels, whether it ariſes from ſome obſtructed matter diſtracting their fibres, or from ſome acrid matter irritating them. Yet though the increaſed force of the blood in the larger veſſels is not the cauſe of the inflammation, yet it is frequently the conſequence of it. For as often as an inflammation is large, or the part inflamed very ſenſible, the whole nervous ſyſtem will be ſympathetically affected by the pain, as to render the heart and large arteries irritable, at the ſame time that the blood ſo vitiated by the obſtruction, muſt act with a ſtronger ſtimulus than uſual; accordingly we ſee in inflammations, the pulſe is little changed till the diſeaſe has continued ſome time. Hence we ſee that in the cure of inflammatory complaints, beſides diminiſhing the force of the circulation in general by blood-letting, the ſpaſm upon the nerves muſt be removed by large quantities of antiſpaſmodic medicines; and if the complaint is partly local, particular regard muſt be had to the veſſels affected, and topical anodyne applications muſt be uſed.

Diseases, if not hereditary, or contracted by any evident cauſe, as contagious air, &c. make their progreſs in the following manner: Firſt of all inſenſible perſpiration is obſtructed by the frequent erroneous uſe of the non-naturals, and the digeſtive power of the ſtomach begins to grow languid. Then the aliment is imperfectly digeſted, and a viſcid phlegm by little and little adheres to the ſtomach and inteſtines; when theſe are beſet with phlegm or putrid excrements, there can be no due ſecretion by the inteſtinal glands, inſomuch that a crude chyle is carried into the blood, whence its temperature being vitiated, its circulation through the capillary veſſels will be irregular, as well as the ſecretion of the humours through the glands of the whole body. In this ſituation thoſe who have ſtrong vital ſtamina, may by their aſſiſtance keep off the impending diſeaſe for ſome time; however at length, though by ſlow degrees, ſome acute or chronical diſeaſe appears, but of what kind, may be learned from the nature of the firſt error, the way of living or conſtitution. When the habit is plethoric, acute diſeaſes are commonly generated, or ſome infractions are formed in the viſcera.

Now let us take a curſory view of diſeaſes in general, not in any particular or diſtinct order, but juſt as they ſhall occur; and ſee whether we may not be able to reduce them to a few ſimple cauſes, to wit, imperfect chylification, obſtruction, infection, and irregular perſpiration.

An Atrophy, when it is a diſeaſe of itſelf, ariſes from a great weakneſs of digeſtion, or from a too free perſpiration through the ſkin. Sometimes it is the ſymptom of a conſumption, diabetes, ſcurvy, or abſceſs in the bowels. There is another kind of atrophy to which infants and children are moſtly ſubject, which ariſes from an infraction of the mouths of the lacteal veſſels by a viſcid matter, and from an obſtruction of the glands of the meſentery.

CONSUMPTION happens when the body ceaſes to be nouriſhed, which ariſes either from a defect or depraved ſtate of the nutritive matter, a fault in the veſſels that are to receive the nouriſhment, or a want of power in them properly to apply it where it is wanted. This depraved diſpoſition may happen either from the quality of the aliment, its quantity, or from the fault of the veſſels to change it, or when changed, to carry it through the proper ſecretions. The food we eat may be too hard for the ſtomach to digeſt, or too large in quantity. When the ſtomach, from being overcharged, becomes ſo relaxed as not to be able to reduce our food to good chyle, then crudities are formed in the primæ viæ, the body is filled with morbid humours, and obſtructions are formed,

formed. Accordingly we find in conſumptions the ſolids are relaxed, chylification is injured, the blood becomes ſerous, pale, and acrid, the glands of the meſentery obſtructed, and at length thoſe of the lungs are infected with the common tent, and theſe glands infect others, and arrive at a ſtate of ſuppuration by ſlow degrees and not by ſo ſudden a progreſs as is in general ſuppoſed. The glans are diſeaſed or obſtructed by ſome fluxion coming faſter upon them than they can tranſmit through their tubes. Hence the glands ſwell, the coats are diſtended and yield by degrees to the growing tumour, till the ſmall veſſels burſt and pus is performed. The ſymptomatic cough ariſes from the ſharp acrid ſtate of the juices and from the ſtruggles of nature to burſt the morbid glands, and thereby to expel the hidden cauſe of the tumour. A conſumption is reckoned mortal by common conſent, eſpecially in an advanced ſtate of it, when the glands of the meſentery, lungs, or other internal parts are filled and vitiated by the retention of pus or purulent matter. This being the caſe, I hope it will be very acceptable, if by the aſſiſtance of a certain medicine I can remove a diſeaſe ſo very terrible and fatal that the cure has hitherto been attempted in vain, and the joint teſtimony of all phyſicians in general declare the caſe incurable by all the power of phyſic. Such a medicine I declare myſelf poſſeſſed of, which has been adminiſtered in conſumptions, aſthmas, fevers, both putrid, malignant, and inflammatory, palſies and kings-evil; and never failed in any one caſe where it was adminiſtered; and I am ready to give proof of its ſucceſs in any one of theſe caſes to the college of phyſicians, the royal ſociety, or any other learned committee. It is expenſive in its preparation and tedious, for two months are neceſſary to carry it through its laſt proceſs. Though it is a grand reſtorative, and the moſt powerful deobſtruent that ever was given in phyſic, as we ſhall afterwards more fully explain; yet it is moſt ſafe in its operation, and cannot in the ſmalleſt degree injure the conſtitution. And ſo certain am I of its ſafety and power of removing theſe complaints, that I here pledge myſelf it ſhall do no hurt, and if it does not ſucceed, I ſhall neither wiſh, expect, or deſire a ſhilling for it. If the reader will attend to what I have already ſaid of the cauſe of diſeaſes, and from what ſimple beginnings they ariſe, that all diſeaſes have one common origin, to wit, obſtruction, he will ceaſe to wonder when he finds that I propoſe one and the ſame medicine to cure ſeveral diſeaſes, commonly ſuppoſed to be very different. But when we examine them, what material difference do we obſerve? This is the only way I can think of accounting for it, and however much I may be miſtaken, the fact is true. We now proceed in our examination of the cauſe of diſeaſes.

Agues do not ſo much ariſe from the extreme weakneſs of the ſolids, as to large obſtructions ſeated in the omentum, pancreas or meſentery, and other viſcera, which are overloaded with a tenacious or purulent viſcid matter, of a blackiſh caſt, which is often pumped up by vomits. If the obſtructions are not removed and the matter diſcharged before the bark is adminiſtered, a hectic fever will be the conſequence, and a dropſy, very often, is the final period. The matter that occaſions the obſtruction, which I have laid down as the fundamental cauſe of all diſeaſes, is occaſioned by relaxation from woody, damp, marſhy ground, moiſt air, &c. This matter does not begin to ſend forth its vapours or acrimony into the blood, in order to cauſe a fever, till it has got together a certain quantity in the obſtructed veſſels; then its ſtimulus becomes ſo ſtrong that the fibres throw themſelves into a mechanical effort to diſengage themſelves of the noxious matter. This acrid matter irritates and ſtimulates the nerves in proportion to its quantity and quality, which varies as this or that veſſel is obſtructed; which variation, occaſions that difference we perceive in the time of the return of the fits. The fits muſt neceſſarily return till the obſtruction is broke through either by nature or art. In a tertian ague, the veſſels, wherein the obſtruction happens, do acquire, in two days, a ſufficient repletion of matter, joined to the obſtructed humours not yet reſolved, as to occaſion a return of the fit every ſecond day. But becauſe in a quartan the humours are more tenacious, heavy, and ſlow in their circulation, conſequently the fits are more diſtant from each other; and ſo of the reſt. We ſee in the ſmall-pox there is a certain time that the variolous matter takes to ripen and become fit to infect another with the ſmall-pox. In the cure of an ague we muſt clear the primæ viæ, open the obſtructions, and expel the morbid matter, and laſtly, brace up the over relaxed tone of the veſſels.

Most Asthmas proceed from the weakneſs of the lungs, a relaxed ſtate of the membranous parts of the diaphragm and mediaſtinum, from either an impaired force or impeded action in the abdominal muſcles ſerving to reſpiration, from a viſcidity in the juices or from a ſpaſmodic affection of the nerves. Here relief and a perfect cure is obtained, by the uſe of the medicine already mentioned. The pectoral oxymel of Edinburgh, with emetic tartar, or the following medicine is of great uſe.

℞. Pulv. ſenekæ ℥ß.
Polycyrrhiz. ℥i.
Aq. fontan. ℔ iß. coque ad ℔ i.
Colaturæ adde Oxymel. ſcillitic. ʒiij.
Syr. balſam. ℥iij. M. doſ. cochl. iij.
quarta quaque hora.

Schirrous tumours ariſe from a viſcid glewy matter obſtructing the veſſels, which adhere, and by the pulſation and preſſure of the neighbouring parts, form a hard indurated ſubſtance, which cannot be opened by any power of the arteries. But as the obſtructed matter is of a viſcid nature, with little or no admixture of acrimony, it may remain in the body indolent and inoffenſive, except the fluids are preternaturally moved and irritated. If the matter is much compacted and the continuity of the veſſels deſtroyed, then a reſolution is not to be expected by any application, and the tumor muſt be removed by the ſurgeon's hand.

A CANCER differs in nothing from a ſchirrous tumour, but that in the firſt there is no acrimony to burſt the veſſels, in the latter, there is a corroſive humour which burſts the veſſels, and from their rupture comes a diſcharge of ichor, which remaining ſome time out of the laws of circulation, acquires a great acrimony; and the contagion of this acrimony is communicated from gland to gland, till by degrees the whole ſyſtem of the glands is ſeized with a cancer; and in time the acrimony becomes ſo virulent that it partakes of the nature of arſenic, and corrupts the whole juices.

A DROPSY is produced from obſtruction. If the veſſels and viſcera are by any means weakened, their action upon the contained fluids will be in proportion leſſened, and in proportion as it is leſſened the fluids will loſe in their motion, particularly thoſe which are contained in the veins and lymphatic veſſels, not only upon account of their great diſtance from the heart, but becauſe they are driven back thither, partly by the ſame force and motion that was communicated to them by the arteries. Hence it is that the veins in moſt places lie contiguous to the arteries, that the latter when full and in their diaſtole, may preſs upon the veins, and aſſiſt the motion of their contents. For the veins have neither ſyſtole nor diaſtole, that is, beat not. I ſaid before that the venal humours were driven back to the heart, partly by the ſame motion given by the arteries; for the muſcles when in action ſwell and preſs upon the veins and greatly aid that motion, and forward the return of their contained fluids. But if the veſſels are debilitated, if the action of the heart and arteries is abated, if the muſcular force grows languid, thoſe aids become wanting, and the blood which is thrown into the veins by the contractions of the arteries, cannot be taken up. For the great ones ſlowly and with difficulty empty themſelves, and the ſmall lymphatics finding theſe almoſt full, cannot pour in all the contents they receive from their reſpective arteries; hence growing turgid they break, or their mouths become ſo dilated, that they ſuffer the ſerum or watery part of the blood to eſcape into the adipoſe cells or fat, which lies between the ſkin and the fleſh, and thus conſtitutes that ſpecies of dropſy we call anaſarca, in which the legs and feet firſt grow oedematous, receive and retain the impreſſion of the finger, pit and ſwell particularly after ſtanding long, or ſuffering them to hang in a pendular poſture. For the humours, when out of their proper channels, cannot aſcend contrary to the laws of gravity. If the impediment to the circulation of the lymph be either in the lymphatics of the tranſverſal muſcles of the abdomen or peritoneum, the water eſcapes either into its duplicature or betwixt the abdominal muſcles and peritoneum; or if the viſcera of the lower belly is obſtructed, the water falls into the cavity of the abdomen, and thus conſtitutes a different ſpecies of dropſy called aſcites. The ſame may be ſaid of the breaſt, head, ſcrotum, &c. and according to the different parts wherein the water is lodged, it has a particular name. If the exhaling arteries of any cavity throw up too much, or if the abſorbent power of the veins be weakened, or if both theſe happen together, a watery fluid will be collected in the body. And in this way are produced all the different ſpecies of dropſies, as the anaſarcous or leucophlegmatic, oedematous, and other dropſical ſwellings, the aſcites, tympany, hydrocele, hydrops pectoris, bronchocele, hydatides, dropſy of the ovaria, &c. When the blood is watery and the veſſels weak, then anaſarcous, oedematous, and other dropſical ſwellings are common. For as the bibulous veins can only take up fluids in proportion to the deplation they ſuffer by means of their own vibratory contractions and alternate compreſſion of the neighbouring arteries and muſcles, their abſorbing power muſt neceſſarily be leſſened in a lax ſtate of the fibres, where thoſe cauſes are much weakened. A dropſy muſt have for its cauſe a defect of the vital ſtrength to carry on the circulation, an obſtruction of the veſſels from compreſſion or rupture, or too great tenacity or poverty of the fluids. Therefore, before a cure of the dropſy is attempted, diligent ſearch ought to be made to find out the cauſe of it. The general curative indications are to procure a free circulation by evacuating the ſerum, whether ſtagnant or extravaſated in the cavities of the body, and by opening the obſtructions of the viſcera, and laſtly by corroborating and ſtrengthening the ſolids and promoting a free perſpiration. Theſe indications are effectually purſued by the uſe of the following medicines.

℞, Tart. emetic, grviij ad x.
Oxymel. ſcillitic ʒij.
Aq. alexeter. ℥ij. M. f. hauſtus primo mane, & hora ſom. cap. ſequentem bolum.

℞; Calomel. grxv.
N. Moſchat. ℈i.
Theriac. androm. ℈iß. M. f. bolus, et primo mane cap. ſequentem hauſtum purgantem.

℞. Infuſ. ſenæ, ℥iß.
Sal. cathartic. G. ℥i.
— diuretic. ʒi.
Confect. cardiac. ʒiß.
Tart. emetic. grij. M.

Infuſ. ſenæ ℥vj.
Mann. opt. ℥iß.
Tinct. jalap. ʒiij.
Tart. emetic. ℈ß.
Confect. cardiac. ℥i. M. doſ. cochl. iij. primo mane ſingulis diebus.

Large doſes of the powder of jalap with nutmeg are of great uſe. Squills too is a very good medicine in dropſical caſes. When the watery humour is partly evacuated by the continued uſe of the above medicines, the deobſtruent powder already mentioned ſhould be given, which ſearch the whole body, waſh and cleanſe the mouths of the lymphatic veſſels, purge the meſenteric glands, and open the moſt minute obſtructions, by which means a ſweet and healthy chyle will be tranſmitted to the blood in due quantity, and the heat and thirſt will go off. To ſpeak my ſentiments with the greateſt ſincerity, I believe there is not in the whole materia medica, a medicine at all to be compared with it in effectually and ſafely opening obſtructions, diſſolving external tumours of the glands, and diſperſing internal ones; and in ſhort, in relieving, clearing, and unloading the whole ſyſtem by carrying off the morbific matter by whatever outlets nature ſeems to direct. And though it is not a bracer, yet, by the judicious uſe of it, the tone of the parts is reſtored, and the whole animal frame receives ſtrength and vigour, and by the uſe of the bark for ſome little time, a complete cure, in moſt caſes, is obtained.

IN ALL inflammatory diſeaſes, as *fevers*, *coughs*, *pleuriſies*, *rheumatic pains*, *inflammations* of the *ſtomach*, *peripneumony*, &c. obſtructed perſpiration is always the cauſe or conſequence of a fever. The primary cauſe may be irregularities in eating or drinking, unwholeſome food, putrid damps, hot air, exceſſive heat or cold, which conſtringes and obſtructs the capillary veſſels. If the conſtriction is greateſt in the lungs, then the inflammation ſeizes them, and a peripneumony comes;

comes on; if in the pleura a pleuriſy; if in the brain and its membranes, a phrenzy, &c. So that the inflammation receives its name from the part affected. Obſtructed perſpiration attends all fevers, and ſeeing the perſpirable matter is the moſt corrupted particles of the body, we muſt neceſſarily believe that when they are retained in the body, at a time when, from a great degree of heat, the humours are moſt diſpoſed to putrifaction, they greatly promote it, and the putrid matter muſt act as a very ſtrong ſeptic upon the humours too much diſpoſed to receive infection; and as the fomes morbi is very powerful, ſo the effects are in the ſame proportion. And when the ſolids are ſtrong and tenſe, the diſeaſe is of the ardent kind. In all diſeaſes of this ſpecies, the primæ viæ ſhould firſt be cleanſed, the force of the blood diminiſhed, cooling antiphlogiſtic medicines, as the ſaline draughts, mixed at the bed-ſide and taken during the fermentation, decoctions of ſeneka and ſpeedwell with nitre, ought to be adminiſtered,

niſtered, and a gentle diaphoreſis ſhould be promoted; and to do this, I can aver, nothing will anſwer ſo effectually as the powder I have already mentioned. In inflammations of the inteſtines or liver, I have never yet failed of ſucceſs, even when a mortification of the bowels has been ſuppoſed to be at hand. Indeed inflammations of all the parts of the body are cured after the ſame manner, only regard ſhould be had to the ſtructure, ſituation, and connection of the parts affected, to the antecedent cauſe of the diſorder, and to the age and conſtitution of the patient. The indication of cure directs the uſe of all means that tend to leſſen the erethiſm of the veſſels, to retard the accelerated motion of the blood, to blunt the ſenſibility of the nerves, to diminiſh the power of the ſtimulus, to leſſen the heat of the body, and to promote a gentle perſpiration. We call ſome fevers nervous, ſome bilious or putrid, others malignant, ſome intermittent, others remittent; and we have a great variety of eruptive fevers: but, in fact, the difference ariſes from the habit of body prior to the attack of the fever, and to the quantity and quality of offending matter. For example, we call one a bilious fever, where there is a great redundancy or irregular ſecretion of the bile; yet whatever is the immediate cauſe of the fever, it may be kept up and the ſymptoms aggravated by an increaſed ſecretion and putrifaction of the bile. In general, in all fevers, the bile ſupports or increaſes it. A decoction of dandilyon with ſal diureticus and emetic tartar, plentifully carries off bile, and opens bilious obſtructions. When there is no viſible tendency to putrifaction, the following bolus is of great ſervice;

℞. Calomel. grxv.
Milliped. ppt. ℈i.
Gum. ammon. ℈i.
Camphor. grv.
Syr. croci q. ſ. f. bolus cum decoct. taraxaci.

Caſtile ſoap with five grains of James's powder, and Caſtile ſoap with nitre, are often found of great uſe in bilious complaints. Where the liver is obſtructed, and the patient has a dry huſky cough, which is often miſtaken for hectic or conſumptive, the foregoing bolus will do great ſervice. As I have already mentioned how obſtructions are formed in the liver, in my deſcription of that veſſel, I refer the reader to that place for an account of the jaundice. If the fibres are tenſe, the fever is of the inflammatory kind; if they are lax, the fever has putrid ſymptoms. The intermittent and remittent fevers differ only in degree, and both the intermittent, remittent, and bilious fevers, when at the worſt, may be conſidered as a ſpecies of the malignant or peſtilential, ſince they have been ſeen with all the violent ſymptoms peculiar to that claſs of diſeaſes. They all ariſe from obſtruction, putrid damps, contagious and infectious air, and obſtructed perſpiration. If the paroxyſm,

roxyſm, which is only an effort of nature to free itſelf of its load, terminates in a profuſe ſweat, the blood and juices are thereby freed from the more corrupted particles, and the perſon recovers; but if the ſweat is imperfect, then the vis vitæ is either weaker, or the offending matter is in a large quantity, which not being entirely thrown out by the ſkin, is re-abſorbed and acts as a new ferment upon the blood, and brings on another fit.

In low fevers, when the ſymptoms are not inflammatory, but the humours in a putreſcent ſtate and the ſolids much relaxed, which are the fevers moſt common in this country, the principal indications are to clear the primæ viæ, for the fæces are by no means to be ſuffered to remain long in the body, the obſtructions are to be opened, the more corrupted fluids are to be corrected and expelled by perſpiration, and the ſolids ought then to be braced up. To do this, ſmall doſes of emetic tartar may be given and frequently repeated, 'till it affects the bowels, then add a little rhubarb to it; when that is worked off, large doſes of emetic tartar ſhould be given 'till the patient vomits plentifully; if it operates at the ſame time downward, the fever will ſoon diſappear. When the patient has puked plentifully, large doſes of the bark ſhould be given, whether the fever intermits, remits, or continues. If the patient has been for ſome time ill, and the fever has been of ſome continuance, then James's powder may be given; if it has no effect, and the fever does not ſoon give way, the bark ſhould be poured down plentifully. This will appear very extraordinary practice to ſome to be ſo forward with the uſe of the bark, but whoever tries it will find it anſwer; and were it neceſſary I could give, what appeared to me, very good reaſons to juſtify it. Since I came to the knowledge of the powder already mentioned, I have always adminiſtered it with the greateſt ſucceſs, and with the uſe of the cold bath, which I conſtantly recommended after the uſe of it, have never failed to reſtore the patient without the aſſiſtance of any other medicine.

No infectious fever makes an attack upon any perſon without occaſioning a ſickneſs of the ſtomach and vomiting, as a great deal of the morbific effluvia is ſwallowed with the ſaliva. Therefore we ought to co-operate with nature, the beſt and moſt infallible phyſician, in promoting vomiting, by which any bilious, acrid, or putrid colluvies that may lie in the ſtomach, is carried off, which otherwiſe, by growing more and more corrupt, would produce a variety of bad ſymptoms, and greatly increaſe the original diſeaſe. And moſt certainly, if we ſtudied nature and purſued what ſhe indicates, we ſhould find ourſelves much happier in cures than we often are. It is alſo neceſſary to evacuate the acrid bile, which unqueſtionably is predominant in all putrid, malignant, and petechial fevers, and if not evacuated, it becomes more and more corrupt. The next care is to keep up a gentle but regular diaphoreſis, for that ſeems to be the conſtant and grand effort which nature attempts, and only makes uſe of vomit and ſtool when that fails.

THE SMALL-POX is an infectious putrid fever occaſioned by a variolous matter acting as a ſeptic upon the animal fluids, and may be treated exactly as other putrid fevers are. As heat is a great promoter of putrefaction, ſo the patient in all theſe diſeaſes ought to be kept cool,

THE CHOLERA MORBUS and DYSENTERY commonly appear at the time that putrid and malignant fevers rage, and ſeem to be a particular determination of the corrupted humours to the inteſtines. If the primæ viæ give way, then a flux comes on, but if the corrupted humours are retained and carried into the habit, they occaſion an intermitting, remitting, continued, putrid, or malignant fever. It is one and the ſame diſeaſe with only this difference, in the dyſentery the bowels are lax, in putrid, &c. fevers they are tenſe. Dyſenteries are of divers kinds according to the diverſity of the excrements, ſome bilious, ſome ſerous, pituitous, purulent, &c. And as the inteſtines are the firſt part of the human body that becomes putrid, owing to the obſtructed fæces, and putrid air contained in the primæ viæ, both which forward putrifaction, and being naturally more lax than the other ſolids, great care muſt be taken to evacuate the morbid matter as ſoon as poſſible. Therefore ipecacoanha in ſmall doſes, as a ſcruple divided into four parts, ſhould be given every two hours; then a bolus of toaſted rhubarb and nutmeg made up with Venice treacle, and the ipecacoanha repeated. As much fixed air ſhould be thrown up the inteſtines as poſſible, and the patient ſhould drink cold water impregnated with the ſame. Some give vitrum antimonii ceratum, but the roughneſs and uncertain operation of that medicine has prevented its coming into general uſe. If the complaint does not give way to theſe medicines, then the bark ſhould be immediately adminiſtered.

RHEUMATIC PAINS are produced from obſtruction, irregular perſpiration, and viſcidity in the juices. When there is a ſizineſs, lentor, or viſcidity in the ſerum of the blood, then pains and achs will be felt in the aponeurotic and membranous parts, ligaments of the joints and tendons. This is called rheumatiſm, and is more or leſs violent according to the degree of fever attending it. This complaint is with certainty removed by promoting, by the following bolus, a free perſpiration, which is often obtained.

℞. Calomel. grii ad iiij.
Pulv. Jacobin. grv ad viiij.
Camphor. grxv.
Theriac. androm. q. ſ. f. bolus.

Drinking a warm decoction of ſeneka with garlick, and ſweetened with honey. Sometimes bliſters are neceſſary. If theſe fail, I have conſtant recourſe to the diaphoretic powder.

Gravel ariſes from various cauſes, particularly relaxation. When the elaſticity of the veſſels are loſt, they have not a ſufficient force to propel the urine into the bladder, and a precipitation enſues in the kidneys, urinary paſſages, or bladder. The beſt medicine in this caſe ſeems to be a lixivium ſtrong enough, and properly diluted with a large quantity of a thin ſoft liquor, as chicken broth, &c.

In nervous diseases the blood is not ſo ſweet and balſamic as in a ſtate of health, the texture of the body is looſe, the veſſels lax, the circulation languid, digeſtion imperfect, and perſpiration obſtructed. This relaxation is often brought on by moiſture, and the matter which weakens the ſpring of the fibres, and relaxes the nervous aponeuretic parts of the human machine, is moſt commonly the humidity of ſome ſtagnated fluid. Some people are born with weak and ſenſible nerves; others fall into nervous diſeaſes by intemperance in eating and drinking, by too frequent evacuations, fear, immoderate floodings, from other diſeaſes imperfectly cured, much ſtudy, &c. To enumerate all the ſymptoms attending nervous diſeaſes, would prove a very tedious work. In ſhort, it is a chaos of afflictions. I muſt refer the reader to a book intitled A Diſſertation upon the Nerves, for an account of the ſymptoms and cauſes of nervous diſeaſes, where he will find them fully enumerated; but the method of cure ſtands in need of ſome emendation. Here it is neceſſary to proceed with the greateſt gentleneſs and care, as the obſtructed organs cannot

not bear any violent ſhock from the operation of medicine. And as theſe diſeaſes are ſo interwoven with the animal frame, that they become in a manner conſtitutional, and as it were part of it, how difficult then muſt it be to diſlodge an enemy ſo deeply intrenched? What time will there not be required to follow it through all its minute paſſages and lurking holes, and then to diſcharge it out of the body? Such medicine as has power to pervade the whole nervous ſyſtem, open the moſt minute obſtructions, remove every ſpaſmodic affection, and reſtore to every fibrilla the proper and natural undulations, will certainly perform a cure in the moſt confirmed nervous complaints. The medicine which I have more than once mentioned, will be found, I believe, to poſſeſs thoſe virtues ſo as to be able to remove, not only nervous diſeaſes in their firſt, but even in their laſt ſtages, when they are much confirmed upon the conſtitution, as in epilepſies, palſies, hypochondriacal melancholy,

lancholy, and ſome other ſpecieſes of madneſs.

In Epilepsies the whole, or greateſt part, of the vaſcular ſyſtem is choaked or clogged with the morbid matter, therefore remedies are required to penetrate the very inmoſt receſſes of the human body. Here we muſt again apply to the powder.

Hysteric Passion is of the ſpaſmodic kind, and is owing to a great conſtitutional degree of ſenſibility in the ſolids, which are eaſily irritated by the application of a ſtimulus, to a lentor in the fluids and relaxation of the ſolids, to paſſions of the mind, or ſuppreſſion of ſome natural evacuation. If the lentor and redundancy is more particularly lodged upon the gullet, ſtomach, liver, inteſtines, ſpleen, pancreas, meſentery, uterus, or their glands, thoſe organs are primarily affected, and draw in the reſt of the body by conſent. If the fomes morbi is flung upon the ſtomach, there the ſymptoms firſt appear; if upon the uterus or its ſecretory or excretory veſſels, there the tragedy begins: if upon the ſpleen, it is then particularly violent, that veſſel ſwells and fills with wind, which, as the perſon gets better, ſeems to diſperſe. And as the ſpleen is probably deſigned to thin the fluids, and to protrude them into the ſplenic vein, or prepare them in its own cells, for the office of the liver and ſecretion of the bile, if they ſtagnate there, they diſtend that veſſel and produce various ſymptoms, and the blood not being ſufficiently purified, becomes heavy, and neither fit for circulation or ſecretion. The paroxyſm or fit, is an effort of nature to attenuate the humours, diſſolve the obſtructions, open a free circulation through the canals, and to throw off what oppreſſes her. To accompliſh that end, ſhe exerts all her powers. The animal ſpirits are put into violent motion, and they ruſh in greater plenty where the ſtimulus is excited, which by that means becomes greater; hence ſome parts of the body are deprived of their uſual ſupply, while thoſe parts, where the influx is greateſt, are thereby violently contracted and convulſed.

A PALSY ariſes from an obſtruction of the nervous fluid. This does not ſeem to bear a doubt, when we conſider how violently all the maimed members are affected, how all ſenſation, motion, and uſe are loſt in them, yet the blood freely circulates. Were the obſtructions, which produce this effect, ſeated in the large blood veſſels, and not in thoſe which the nervous fluid paſſes, we ſhould certainly find ſome traces of it, and perceive, if not a total obſtruction, at leaſt a very groſs and viſible interruption in the circulation of the blood. Here the medicine that has any chance to be of ſervice muſt be very ſubtile, penetrating, and powerful. Such is the medicine that I have already mentioned. The component parts of it are ſo intimately mixed, and ſo judiciouſly blended, that the whole conſtitutes a moſt benign medicine, which from the fineneſs and ſubtility of its parts is ſo pervading, that the obſtruction muſt be very great indeed that reſiſts its power.

HYPOCHONDRIACAL MELANCHOLY has its principal ſeat in the liver and other viſcera of the lower belly. The effects this diſorder produces in the human body are terrible, as palpitations in the heart, vomiting, fainting, convulſions, inflammations, and tenſion of the hypochondria, with a train of many other afflictions. Theſe various phænomena appear, juſt as the ſuperfluous matter or fomes morbi happens to be flung on this or that veſſel, which preſſing upon the nerves and contaminating the fluids, interrupts the free and equal circulation of the animal ſpirits, and thereby excites various paſſions of the mind, very different according to the nature of their interruption, or irregular influx and reflux; ſuch as fear, anger, low ſpiritedneſs, great anxiety, &c. which occaſions innumerable ſuicides. This is a moſt ſtubborn diſeaſe, and will yield to nothing if the deobſtruent powder fails.

THE SCURVY may very properly be deemed an attempt or effort of nature to relieve herſelf of what oppreſſes her. For as the plenitude or load which oppreſſes her proceeds primarily from errors in diet, which brings on a defect in the ſecretions, eſpecially that of perſpiration; and as this defect in the ſecretions proceeds from an inability in the ſolids, to carry the juices with ſufficient force into the mouths of the excretory ducts, or to divide and fit the matter for ſecretion, ſo that the ducts through which the juices circulate, and to which they communicate their qualities and effects, become overloaded and obſtructed by a gelatinous or ſlimy matter, which ought to be diſcharged by the pores of the ſkin; ſo whenever the conſtitution by any means becomes invigorated, a proportional quantity is thrown into the perſpiratory outlets; yet either not being conveyed with ſufficient force, or being too viſcid to paſs, it there ſticks, heats, becomes acrimonious, and cauſes thoſe eruptions and defedations of the ſkin, which in ſome people are almoſt loathſome to behold, and extremely offenſive to come nigh. Many diſagreeable ſymptoms does the patient bear before nature exerts herſelf to make thoſe outlets to carry off the ſuperfluities. When this diſeaſe attacks phlegmatic conſtitutions, it is called the cold ſcurvy; when it invades the bilious or thoſe of a hot temperament, it is called the hot ſcurvy. I call nothing ſcurvy, but what is attended with defedations of the ſkin without any acute fever, and where are ſmall ulcers in the gums, that cauſe looſe teeth, foetid breath, and ooze out a ſtinking ſlimy matter. Ulcers on the legs or any other part of the body proceed ſometimes from the relicks of other diſtempers, as well as from the ſcurvy. Sometimes the ſkin is as hard as parchment, and of a branny and ſcalely white, which will crumble into duſt like chalk between your fingers; and though it breaks out in few parts of the body, yet we may depend upon it that all the perſpiratory ducts are in ſome meaſure obſtructed by the ſame farinaceous matter, and the juices towards the ſurface of the body are replete with this chalky ſubſtance. Thoſe that are afflicted with this ſcurvy generally have the gout, or the ſeeds of it in their conſtitution. I had a patient whoſe whole body was covered with this chalky cruſt, two tenths of an inch thick, and as hard as wood; when it began to come off, he took it out of the bed in handfuls three or four at a time. Some of the ſcales were the breadth of one's hand. The patient's ſkin came on like that of a new born child. All ſcurvies, as I ſaid before, have their beginning from obſtructions, which occaſion putrefaction. For though the food from the time it is received into the mouth, till it is diſcharged by perſpiration and excreted by the anus, is advancing from an aſceſſent ſtate to a ſtate of putrefaction, yet it is prevented from arriving at the ſtate in which we ſee putrid fleſh or a ſtinking fluid, by throwing in upon the humours a freſh ſupply, formed from aliment of an aſceſſent kind. Yet if this ſupply is partly cut off by the aliment being imperfectly digeſted, or if the perſpiration is obſtructed and the emunctories prevented from doing their office, then putrid and detached matter is ſhut up in the body and prevented from flying off; then the humours ſoon turn into a putreſcent ſtate which deſtroys the health, then this morbid matter is ſoon conveyed into the blood, it intimately mixes with it by circulation, then it acts as a ſeptic ferment, and corrupts the whole maſs of fluids, and after ſome time we may conſider the whole body as in an advanced ſtate of putrefaction; then come on great languor and laſſitude, wandering pains and achs, a ſenſe of weakneſs, and ſmarting violet coloured, livid, black and blue ſpots or vibices over the body, the humours are daily more and more corrupted, till at laſt they become ſo acrimonious as to corrode, tear, and deſtroy the veſſels, and occaſion hæmorrhages, the breath ſtinks, the countenance becomes pale and tawny, the gums are corroded and turn ſpungy, breathing is difficult upon the leaſt motion, the legs ſwell, and the ſwelling ſuddenly diſappears, but they continue unwieldy and heavy, wandering pains all over the body, as well internally as externally, imitating almoſt every complaint. The teeth grow looſe, yellow, black, and rotten; hard knots are felt within the ſkin in different parts of the body, obſtinate ſtinking ulcers chiefly in the legs, ſcales, cruſts, a dry leproſy, violent gnawing, ſtabbing, piercing pains all over the limbs, joints, bones, and bowels, which greatly increaſe at night, heats, feveriſhneſs, looſeneſs, ſtranguries, bloody fluxes, faintings, anguiſhes, dropſies, conſumptions, convulſions, tremblings, gangrene, voiding of blood by ſtool, putrefaction of the liver, ſpleen, pancreas, meſentery, &c. are ſymptoms of the ſcurvy. This putrid diſeaſe, which is either ſcorbutic, ſcrophulous, leprous, or eviliſh, is cured with more difficulty than other putrid diſeaſes, becauſe the original frame of the conſtitution is continually promoting the diſeaſe, and is conſtantly throwing in freſh matter to ſupply it. But as it ariſes from obſtruction and obſtructed perſpiration, the moſt rational cure is to open the obſtructions, and promote a full, regular, and free perſpiration.

THE KINGS-EVIL proceeds from a ſizy cold matter obſtructing the glands and rendering them almoſt of a ſchirrous hardneſs; they are often inflamed and turn to ulcers, which ſeems to ariſe from the obſtruction of the excretory tubes of the glands, by the matter to be ſecreted becoming too thick. The inflammation is excited in the veſſels that nouriſh the glands, which are ſo ſmall, that they are unable to excite heat ſufficient to digeſt and turn into pus the thick humour which obſtructs and greatly increaſes the volume of the gland, inſomuch, that nature wants the aſſiſtance of art to attenuate ſufficiently theſe groſs humours. Relaxation ſeems to be more the cauſe of this complaint than any certain infection or hereditary taint, though it is no doubt a diſeaſe that may come by inheritance. The looſe and weak texture of the glands ſuffer their cavities to be diſtended beyond their natural capacity, in conſequence of which they burſt, and the redundant humours, by means of that rupture, find a vent. For when there is a redundance of any thing in the body, which hath been a long time diſcharged by this or that paſſage, by the aid of ſome ſecretion, which by cuſtom is made as it were a law; then it is evident, that there is neceſſarily a diſeaſe of the ſecretions of the other glands, which threaten ſome danger to thoſe parts. For example, in leproſies both dry and moiſt, the patient, while the diſeaſe is thrown out by the ſkin, has a leſs diſcharge by urine, and all the other ſecretions are leſs in quantity. Now whatever medicine can be found of ſuch a deobſtruent quality as to open the excretory ducts, abſorb the acrimony, and clear the ſkin, by attenuating the matter which cauſed the diſorder, will cure this tribe of diſeaſes; will heal up the large tetters which often diſcharge great quantities of ichor, which are deemed ſcorbutic, ſcrophulous, or eviliſh; but in reality, they are no other than long augmented and united obſtructions, proceeding from a plethoric ſerous diatheſis. In theſe complaints there is no medicine to be compared to the powder I have already recommended; but whether it will perform a cure in all poſſible caſes, my time and experience have not yet enabled me to determine; but thus much I can declare, that it has never yet been given, where it failed to recover the patient, and time will ſhew whether it is to be relied upon as an abſolutely certain medicine in the cure of thoſe complaints. After the uſe of it the lax ſolids ſhould be braced up with the bark and ſea bathing, to prevent a return.

Rickets ariſe from errors in diet, from the over care and tenderneſs of the parents, from neglecting to give the child proper exerciſe, or from the omiſſion of timely remedies, when the bodies of little infants, who are ſubject to various obſtructions, are out of order. This complaint is to be prevented or removed by cleanſing the primæ viæ, opening their little obſtructions, and by bracing up the ſolids by the uſe of the cold bath, country air, and much exerciſe, not ſuffering the children to ſit long, but often rolling, tumbling, and ſhaking them.

Various are the diſorders which are incident in particular to the fair ſex, and moſt of them ariſe from an undue regulation of their monthly courſes. That is the principal ſource of moſt of their calamities. When the monthly purgations are partially ſuppreſſed or totally obſtructed, through weakneſs, rigidity, or a ſpaſmodic contraction of the veſſels, if the humour retained is not thrown off by ſome other outlet, it muſt neceſſarily occaſion a plenitude, which muſt diſtend the veſſels beyond their natural dimenſions, and cauſe debility; as the urine, if it is too long and in too great a quantity retained in the bladder, ſtretches its fibres ſo far that they loſe their power to contract and expel it.

A PERIODICAL plethora is not peculiar to women only, for Boerhaave was of opinion that men have ſome excretion increaſed at ſtated times, and that the plethora they are ſubject to, goes off either by increaſed perſpiration, urine, &c. which ſometimes happens to women whoſe courſes do not flow, yet they are preſerved in health by ſome other evacuation being increaſed.

THERE is a certain periodical plenitude in all nature. The ſea ebbs and flows; the ſex are relieved by the eruption of the menſes; humours increaſe and grow plentiful in the beginning of every month; in lunacy theſe periodical changes are very perceptible; they happen indeed in all diſeaſes, and very much exaggerate the ſymptoms, but not being perceptible, were not attended to by phyſicians, who are generally fonder of ſpinning out fine theories, than of ſtudying ſimple nature. Some people are ſubject to periodical eruptions, which cover all the body, and are at other times perfectly free from any thing of the ſort. Moſt ſores and runnings have a greater diſcharge at one time than another.

WHEN the periodical plethora, which women, in common with every other part of the animate and inanimate creation,

tion, are ſubject to, is not diſcharged by the common outlets nature has appointed, and no other evacuation has ſupplied its place, then the blood being obſtructed, and not having its due motion through the canals, obſtructions are of conſequence generated, and the blood flowing to thoſe obſtructed parts in a ſtill greater quantity, and finding no paſſage, of courſe diverts and makes its way through other parts, where it has either been accuſtomed to find vent or meets with the leaſt reſiſtance, and thereby lays a foundation for innumerable diſorders, ſuch as fevers, inflammations, cholics, excruciating head-achs, dimneſs of ſight, ſwimmings, hyſterics, inflammation of the ſtomach and bowels, diſtention of the hypochondria, defedations of the ſkin, eruptions, fluſhing redneſs of the face, chloroſis or green ſickneſs, a heavineſs, ſenſe of weight, pain of the loins, groin, paleneſs, deprivation of almoſt all the natural, vital, and animal functions, twitching pains, a pain throbbing and beating in the head, giddineſs, reaching, panting and difficult breathing, convulſions, a ſpecies of madneſs called furor uteri. Sometimes the blood, by its putrefaction, injures the veſſels and produces an infinite number of diſeaſes. If the blood has continued ſo long viſcid and obſtructed as to contract an acrimony, then the acrid concretions twitch, ſtimulate, and wound the nerves of the womb, and put them into thoſe throws, ſpaſms, and convulſions, which affect the whole body, and are often the cauſe of nervous fits. The blood thus accumulated, is ſometimes diſcharged by uncommon paſſages, as by the noſtrils, nails, gums, ſalival ducts, oeſophagus, breaſt, lungs, ſkin; alſo by ſtool, urine, wounds or ulcers. In the cure of this diſorder it is neceſſary to adminiſter a medicine powerful and active enough to reach the extremities of the blood veſſels; diſſolve viſcidities, thin the ſtagnating humours and render them fit for motion, force open the obſtructions of the viſcera, correct what degree of acrimony the juices may have contracted, and reſtore a free circulation. If the following medicines fail of having the deſired effect, I would then recommend the uſe of the deobſtruent and reſtorative powder, which is certainly the moſt powerful, and at the ſame time the ſafeſt medicine that ever was known or adminiſtered in phyſic; and whenever it is known, which muſt one time or other happen, every phyſician will allow that it is made up of the moſt active and powerful materials, from ſome of which much may be expected, even as much as it really performs, and that is more than any thing yet known in phyſic is capable to effect; and its operation is at the ſame time ſo gentle and eaſy, that it is ſeldom diſcovered till next day, and upon that account it is given only every fourth day. In palſies the patient generally finds a tingling like the pain which people feel when their hand or leg is aſleep, the ſecond day after taking it.

In putrid fevers its effects are generally very quickly perceived.

In menſtrual obſtructions give the following bolus, which ſhould be repeated twice a week till the patient is well; if it operates both upwards and downwards, ſo much the better.

℞. Calomel. grviij ad grxv.
Pulv. hellebor. nig.
Myrrh. ā ℈i.
Extr. hellebor. nig. q. ſ. f. bolus intermedio tempore cap. æger pil. ſequent.

℞. Caſtor. g. x. ammon. myrrh. āā ℈ij.
Aloes chalyb. rubig. præp. āā ℈i.
Extr. gentian. Syr. zingib. āā p. æ. M.
f. pil. No. 24. Do. No. 3. bis in die.

Vel,

℞. Aſ. fætid. ſpec. aromatic. ā ℈i.
Galban. pulv. hellebor. nig. ā ʒ ß.
Sal. martis ℈iß.
Tinct. myrrh. q. ſ. f. pil.

And if a liquid form is required, either of the following will do.

℞. Elix. hypochondriac.
Balſ. traumatic. āā ʒiij.
Sacchar. q. ſ.
Sal. ſuccin. ℈i.
Spir. lavendul. ℥ij. M.

℞. Regul. martis ℈i.
Spir. vol. aromatic.
Eſſent. ambr. āā ʒvi.
Moſch. ℈ ß.
Spir. lavendul. ℥ij. M.

THE turn of life to women is a moſt dangerous time; ſome loſe their lives, others their ſenſes, and many their healths at that time. The following courſe will be of great ſervice in nervous diſeaſes, headachs, coſtiveneſs, female obſtructions, but moſt particularly in the diſorders of women about the turn of life.

℞. Galb. pur. Aſ. fætid. Reſin. jalap.
Mercur. dulc. āā ℈ ß.
Caſtor. ruſſ. aloes ſocotorin. ā ℈ ß grv.
Sal. ſuccin. grvi.
Ol. aniſ. gut. iiij.
Vin. aloetic. q. ſ. f. pil. No. xij.

℞. Succin. flav. opt. pulv. ſubtill. ℔ ß.
Myrrh. contuſ. ℥ ij.
Sal. tart. ℥ x.
—— ammon. ℥ ij.
Mar. ſyriac. ℥ ij.
Spir. vin. rect. ℔ ij. Digere per dies tres, vaſe bene clauſo, diſtill. ℔ iij. cui adde

Cort. Peruvian.
Rad. valerian. ſylv. contuſ. ā ℥ ij. infunde ſine calore per dies tres ad ſingul. ℥ i. adde Vin. alb. Liſb. ℔ ß.

℞. Aq. pulegii ſimpl. (vel menth. piper.) ℥ ij.
Syr. e meconio ℥ i ß.
Tinct. caſtor.
Spir. lavendul. c. āā ʒ ij. M.

℞. Caſtor. ruſſ. ℥ i.
Croci piper. alb.
Pulv. myrrh. comp.
Tart. vitriol. neutr.
Mag. alb. ā ʒ i. f. pulv.

℞. Emplaſt. cephalic. pharmacop. Edin. ℥ i ß.
Opii pur. ʒ ß. M.

℞. Mar. ſyriac. ℥ ij.
Hellebor. alb. ℥ i.
Fol. nicot. opt. aſſar. bacc. ℥ ß. M.

Four ſpoonfuls of the above wine going to bed, the like quantity at three or four in the morning, and at four in the afternoon, with two of the opening pills each time; and at night, after taking the pills, take a ſpoonful or two of the ſpecific mixture, to be repeated twice a week, drinking warm thin broth thoſe days. On the other days take gr40 of the ſtrengthening powder morning, noon, and night, in a ſpoonful or two of white wine and water, peppermint water, pyrmont water, &c. with a glaſs of the ſame after ſwallowing the powder. The ſtomach plaſter is conſtantly to be worn at the pit of the ſtomach, and a pinch of the cephalic ſnuff is to be taken going to bed. The head too ſhould be waſhed ever morning with cold water and ſpirits of lavender.

If the courſes are too immoderate, great, or frequent, ſo as to exhauſt the ſtrength, it cauſes a great debility, loſs of appetite, indigeſtion, grumbling in the bowels, pain and weakneſs in the back, loins, hips, dropſy, atrophy, or fluor albus, which is too great a diſcharge of mucus from the inſide membrane of the uterus, deſigned to lubricate its cavity and neck, and prevent their coaleſcing. It may be occaſioned by plentiful eating, without taking exerciſe. If it is of long continuance, and the juices very acrid, then it becomes cancerous. The immediate ſeat of this diſorder is either in the canals of the uterus or in the glands inſerted in the vagina: when there is any conſiderable degree of acrimony in the diſcharge, it occaſions heat, pain, excoriation of the cuticle and an ulcerated ſtate of the glands, it occaſions great weakneſs in the back, flatulencies, riſing of the hypochondria, hyſteric paſſions, &c. This diſeaſe may ariſe by great relaxation of the ſolids, and an acrimonious ſtate of the fluids, which may be brought on by moiſt unhealthy air, damp beds, or houſes, ſudden cold, obſtruction of ſome natural evacuation, ſickneſs, a bad ſtate of health, the paſſions of the mind, as fear, love, grief, immoderate venery, difficult and hard labour, floodings, venerial gleets, forcing purgatives too often repeated, ſcorbutic and venerial taints, and every diſeaſe whatever attended with an acrid ſtate of the juices. The medicines proper to be given in this caſe, muſt be able to ſheath and envelope the acrimony of the juices, ſcour and deterge the indurated glands, cut through the ſeveral obſtructions, fling off the peccant matter through ſome proper emunctory, and reſtore the ſecretions perfect and regular. The following medicines cured the moſt inveterate fluor albus I ever met with, even of twelve years ſtanding, when the patient could not walk, nor almoſt bear the ſmell of her own cloaths, which were ſometimes wet even to the outer petticoat.

℞. Balſ. copaib. ʒiß vel ʒij.
Vitel. ov. q. ſ.
Aq. cinnamon. ſimpl. ℥iß.
Tinct. thebaic. gut. xij.

Spir. lavendul. ʒi.
Syr. ſimpl. ʒiß. M. hora ſom. ſumendus omni nocte.

℞. Rad. rhei pulv. gallor. opt. ā ʒi.
Terebinth. q. ſ. f. pil. No. 36. cap. 3 bis in die in cochl. ij. ſtyptic. Helvetii. Spunge ſhould be uſed now and then for a peſſory.

℞. Sal. mart. ℥i. coque ex aq. font. ℔i. ſolut. leni calore et filtra. cap. cochl. min. j. hora 11ma ante meridian. et 4ta poſt meridian. in cyath. infuſ. ſequent.

℞. Cort. aurant. inciſ. et contuſ. ʒiij.
Fol. chamæmel. mj. infunde in aq. bull. ℔i.

℞. Gum. Arab. pulv. gallor. opt. ā ʒij.
Rhei pulv. ℈ij.
Maſtich. p. ʒi.
Terebinth. Venet. q. ſ. f. pil. No. 60. cap. 3 omni nocte.

But firſt of all the following bolus ſhould be given, and repeated once or twice a week.

℞. Mercur. dulc. grviij.
Rad. rhei pulv. ʒß.
Spec. aromatic. grviij.
Syr. ſimpl. q. ſ. f. bolus mane ſumendus cum regimine.

℞. Mel. ægyptiac. ʒij.
Aq. alumen. Beti ℔i. M. injiciatur ʒi. hujus ſolutio quotidie.

If the injection occaſion, which it ſometimes does, a pain in the ſide, in that caſe it muſt be diſcontinued. The primæ viæ, in this complaint, as well as in every other, ſhould be kept clean with rhubarb and Æthiop's mineral or mercur. dulc.

I HAVE omitted ſaying any thing of the gout 'till I ſhould know whether the powder, I have already recommended, will prove an effectual remedy in that torturing complaint. It is the general opinion that flannel and patience are the beſt phyſicians in the gout; and people are unwilling to try any thing elſe, which is the reaſon I have not had ſufficient opportunities to enable me to declare with certainty that it is a cure for the gout. I have adminiſtered it to ſeveral patients in a fit of the gout, and it ſometimes removed the pain ſuddenly, and in others every doſe leſſened it, and after repeating it a few times the pain went entirely off. If any perſon wiſhes to make trial of it in that complaint, I declare it may be done with the greateſt ſafety, for it may be given to a child upon the breaſt, and I have ſeveral times given to children of two months old. I undertake it ſhall do no harm, and if it does not cure the patient, ſhall not expect a ſhilling either for it or my own attendance, and that agreement I am willing to abide by in every other diſeaſe.

From what hath been ſaid, it plainly appears that a ſtimulus is the cauſe of chylification, circulation, ſecretion, and excretion, and all natural motion in the body; and what is the cauſe of natural motion, if too much increaſed, will produce unnatural motions; but in all diſeaſes there is an unnatural motion ariſing from a preternatural irritation of the nerves, therefore in all diſeaſes the nerves are too much irritated.

Again, from the account I have given of diſeaſes, it evidently appears that they all ariſe from obſtruction; therefore whatever acts as a moſt powerful deobſtruent, muſt remove many diſeaſes, and do good in all; and if it has at the ſame time an abſorbent quality, ſo as to ſheath and ſuck up the acrimony of the fluids, it will have wonderful effects. As diſeaſes ariſe from obſtruction, let us now ſee if we can find out what occaſions obſtruction, and if we can do that, we ſhall then arrive at the fountain head, and be better able to prevent and cure diſeaſes.

CHAP. VIII.

The Cauſe of Diſeaſes more particularly conſidered and accounted for. How to preſerve and reſtore Health, by a natural and eaſy Method, and with little Medicine. An Account of a ſafe and very powerful Medicine, which opens the moſt minute Obſtructions, and effectually cures ſome of the moſt ſtubborn Diſeaſes, as Aſthma, Conſumption, King's-Evil, Palſy, Fevers of the worſt Kind, &c.

THE end and deſign of eating and drinking is to ſupply the waſte of our bodies, and to keep up the due ballance between the ſolids and fluids. The neceſſary friction and colliſion from the motion of our juices in order to break and ſubtilize their parts, and to fit them for the animal functions, make a continual waſte, to ſupply which, it is abſolutely neceſſary to take a proper proportion of nouriſhment; but if a perſon, in order to ſupply that waſte, takes too much food, which from its natural quality, deſtroys the ballance, then the individual ſuffers in proportion as the ſolids and fluids are removed from the ſtandard of health. Crudities and indigeſtion lay the foundation for moſt diſeaſes that torture and afflict mankind, and not a few there are that dig their own graves with their teeth. If a perſon whoſe ſolids are tenſe and firm, wallows in luxury and riot for any conſiderable time, he fills his blood with bad juices, which being driven about with too great force and velocity, are thereby forced into the ſmall veſſels, deſigned to receive the lymph or thinner part, and the ſolids being in a due degree of tenſity, acute and inflammatory diſeaſes, as fevers, gout, eriſipelas, &c. are formed. If the ſmall lymphatics, by the force of the circulation and acrimony of the fluids, are torn and broke, then impoſthumes gangrenes,

&c. follow. But if a perſon purſues this courſe a little more ſlowly, and joins lazineſs and want of exerciſe to it, ſo that the acrimony or ſtock of bad humours increaſe, and the ſolids are at the ſame time weak and relaxed, then the ſlower nervous and more chronical diſeaſes are produced, and to crown the feaſt, in comes the apothecary's ſhop to feed the diſeaſe and confirm the evil. When I take a view of the brute creation, I find they are liable to very few diſeaſes: horſes indeed, from the brutal treatment of their maſters and thoſe that have the care of them, and from violent exerciſe and unconſcionable fatigue, are ſubject to fall into more diſeaſes than any other ſpecies of the brute creation, except the lady's lap-dog from over feeding. In ſhort, the brute creation have rarely any diſeaſe, and that is entirely owing to their eating and drinking what nature deſigned for them, and in ſuch proportion as their hunger and thirſt require, and to their having nature for their phyſician, and not being poiſoned with the apothecary's ſhop; and I do believe that providence did not entail more diſeaſes upon man than he did upon beaſts, and man certainly would have as few, if he could be prevailed upon to follow the ſame regularity in eating and drinking. Yet I would not be underſtood to mean that temperance will prevent or remove every complaint, certainly not; as long as there are different conſtitutions there will be ſome healthier than others; and one conſtitution will be more liable to this or that complaint than another. Some diſeaſes are left us by inheritance as a patrimony, and originally acquired by intemperance. Some diſeaſes ariſe from infection and bad air, which we ſhall by and by conſider more at large; but the bulk of complaints are the fruit of our own labour, and may be accounted for in the following manner. When the meat remains longer in the ſtomach, by reaſon of its quantity or quality, than by the laws of nature it ought, or when the ſaliva or gaſtric humours are already corrupted from the firſt cauſe, then the aliment undergoes an irregular and incomplete digeſtion in the ſtomach, and by the heat, hurry, and tumult of that organ, wind and crudities are bred, which being incloſed, become putrid, like putrified and ſtagnant air, but more ſo as being more confined. And being preſſed upon by the nervous fibres of the ſtomach, endeavour to make their way, where there is leaſt reſiſtance, either by the upper or lower orifice of the ſtomach, but if they are pent up by the contraction of the fibres, as happens in ſpaſms of the inteſtinal fibres or firſt paſſages, then the putrid myaſma and crude indigeſted chyle endeavour to get looſe, and by their preſſure upon the neighbouring veſſels occaſions pain. Spaſms upon the ſphincter of the oeſophagus occaſion the appearance of ſuffocation. In ſpaſmodic cholics the anus is ſometimes ſo contracted as not to admit a ſmall quill. The croaking and murmuring in the bowels of nervous people in an hyſteric fit, ariſe from ſpaſms. But they do not continue long in the primæ viæ till they enter the habit and mix with the maſs of blood. Hence ariſe wandering pains not unlike the gout or rheumatiſm, now in one place, then in another; for as ſoon as the fibres by their workings, have diſengaged themſelves of the acrid ſtimulating matter in one part, perhaps the fibres at a diſtance contract, and the perſon diſcovers pain there; for where the obſtruction is greateſt, there the pain is moſt acute, and the influx of the nervous fluid greateſt. Sometimes the fibres of the veſſels are unable to diſengage themſelves of the offending matter, then they are more relaxed, by the ſtruggle, the obſtruction is more confirmed and increaſed, and perhaps by diſturbing the circulation by the conteſt, obſtructions are formed in other parts of the body. When the acrimony and myaſma are forced into the abſorbent veſſels and mixed with the maſs, then diſeaſes appear in various ſhapes, and as this or that part of the body is weakeſt, the force of the ſolids throws the offending matter thither, and forms the ſeat of the complaint.

SOME of our complaints ariſe from infectious or bad air, which we ſhall next conſider. Upon the air the life of animals and vegetables and revolution of the heavens depend. The weight of the air differs in different parts of the earth, and at different ſeaſons and times of the year and weather. When it is groſs and ſtagnant with little motion, it becomes putrid and unhealthy, for all bodies detach ſome particles which circulate in the air, which is more or leſs healthy according to the qualities and quantity of matter it contains. All the body is vaſcular, and every part of the ſkin both expires and inſpires the moſt ſubtile and perhaps putrid parts, which iſſue out of the cutaneous exhaling arteries, which are diſperſed over all the body both externally and internally. When the veſſels are relaxed, then perſpiration is obſtructed, becauſe the veſſels have not force to carry the perſpirable matter the length of the cutaneous exhaling arteries; and if the air is ſtagnant and thick, it has not elaſticity to diſperſe and waft it away, and it lodges upon the ſkin and about the mouths of the veſſels, which it clogs, plaſters up and obſtructs. This putrid matter, which ſhould be carried off by the wind, is re-abſorbed by the inhaling veſſels along with putrid particles contained in the air, which acts as a ſeptic matter upon the blood, and excites it to corruption. Perſpiration is, as was already mentioned, abſolutely neceſſary to animal and vegetable life, and a free and regular perſpiration is neceſſary to good health, and in all diſeaſes it is more or leſs obſtructed. When the air abounds leſs with that univerſal ſpirit which I ſpoke of in the beginning of this treatiſe; the air loſes part of its elaſtic virtue, which makes the quickſilver ſink in the barometer upon the approach of bad weather, and is the reaſon why we find this element heavy, and the leſs it ſupports and keeps up our ſpirits; and if it loſes its elaſtic force without, it loſes it alſo within us, whereby our natural ſtrength is diminiſhed, the circulation is languid, the body heavy and dull, the ſpirits low and oppreſſed; the ſtomach does not quickly do its office; head-achs, peeviſhneſs, and a great variety of other gloomy and diſagreeable ſenſations, too well known, particularly to thoſe that labour under nervous diſeaſes. When the air is in a putrid ſtate, it reſembles that noxious ſtinking damp, which ſulphur when kindled emits, or like the damp which ariſes from coal or lead mines, deep ſunk wells, &c. Many diſeaſes, as the putrid, malignant, epidemical and peſtilential, &c. ariſe from the air, which is received and ſucked up by the inhaling or abſorbent veins, which are a ſpecies of lymphatics. The inbibation by the ſkin is performed iu the ſame manner as other abſorption, the pulſation of the arteries, which forwards the circulation of the chyle, is continued by the perpetual vibratory oſcillations of the external air, and by part of it which enters the abſorbents, and acts as a ſtimulus. When the air is loaded with the effluvia of ſtagnating water, and rendered more putrid by vegetables or animals dying and rotting in it, at ſuch times all meats are quickly tainted, then low, malignant, putrid, intermittent fevers, dyſenteries, with many other putrid diſeaſes rage. For the putrid effluvia of both vegetables and animals, ſtagnating waters, moiſt ſtagnant air and heat much increaſed, have an aſſimilating quality, and act as a ferment upon the humours. There is no ſtronger ſeptic than putrid fleſh. If you put a piece of rotten fleſh into an exhauſted receiver, it will fill it with a great quantity of air, which is the corrupted effluvia turned to a noxious and deadly air, and if tranſmitted upon any vegetable will kill it, if upon an animal, it will fall into convulſions, and very probably die. This peſtilential air may be condenſed and abſorbed by another body, which will by that means become the moſt deadly poiſon, ſome of which is now in my poſſeſſion, though not entirely prepared in that way. It will not only kill by the touch, but if opened and broke, would poiſon the air around it, and kill whatever comes within its reach.

I HAVE perhaps two of the greateſt oppoſites in nature, a poiſon brought to the greateſt degree of malignity, and a medicine of moſt extraordinary virtues, capable of working wonderful effects upon the blood and juices, and has not yet failed in any caſe where it has been adminiſtered, which has been moſtly where other means have been tried in vain, and in diſeaſes commonly thought incurable, particularly conſumptions, kings-evil, aſthmas, palſies, and the worſt kind of putrid fevers: it is ſuch an

acqui-

acquiſition to the art of healing as will be more valued the more it is known.

When the air is foggy and damp and full of putrid particles, it ſtops the perſpiration, and thereby ſhuts up in the body the putrid perſpirable humours; and the cutaneous abſorbents ſuck up a large quantity of the putrid myaſma, which is carried into the blood and brings on a fever, which appears differently in different conſtitutions according to the ſtate of the ſolids and fluids. If the ſolids are tenſe and elaſtic, and the patient plethoric, then he is ſeized with an ardent high inflammatory fever, which always changes to a putrid and malignant form, if the perſon lives long enough and the fever not removed. If the perſon is bilious with more relaxed ſolids, then the fever attacks with leſs violence, but creeps on inſenſibly. He complains of thirſt, nauſea, bitter taſte of the mouth, frequent diſcharges of putrid bile; by and by it inſenſibly changes into a malignant form, and petechiæ and livid ſpots, mortification of the bowels, and death enſue. If the air is much infected, or the mouths of the cutaneous veſſels much dilated, ſo as to imbibe a large quantity of putrid matter, then it ſoon reaches the maſs of blood, and the fever is of the worſt kind. If the morbid matter is extremely putrid, then the fever puts on the worſt form, and is more or leſs peſtilential, and the nerves quickly receiving ſome of the peſtilential matter, convey it to the brain, which brings on giddineſs, frenzy, coma, and univerſal debility and ſudden death. The jail fever is the moſt peſtilential this climate is ſubject to; it ariſes from bad air, filth and naſtineſs, which is as great a promoter of putrefaction as cleanlineſs is a preſervative againſt it. It is the putrid matter, filth, and number of houſes, which prevent the free circulation of air, and the perſpiration of ſuch crouds of people that make large towns ſo unhealthy. And filth and naſtineſs beſmear the ſkin and clog the exhaling and inhaling veſſels. People ſhould avoid, as much as they can, living near much wood or water, for woody countries are always damp, and the people are conſequently very ſubject to agues. For the perſpiration of vegetables is ſo great, there is no wonder the air ſhould be damp and moiſt; which ought to ſerve as a caution to gentlemen in the country not to plant too near their houſes, as the humidity of air is greatly increaſed by the perſpiration of the trees, and the imperfect ventilation of the air. From what hath been ſaid we ſee that the body in a healthy ſtate both expires and inſpires, and as long as this expiration and inſpiration are regularly kept up, ſo long the perſon enjoys health, but when that is interrupted and diſordered, he complains. And I challenge any one to produce an inſtance of a perſon who regularly inſpires and expires, in bad health, or one who is irregular, that enjoys good health. When we conſider that perſpiration is more in quantity than all the other evacuations put together; it is eaſy from hence to conceive how abſolutely neceſſary it is for life and health. Obſtructed perſpiration is the cauſe of a train of hideous and frightful ſymptoms that affect nervous people, and is the cauſe of that tranſient lowneſs that people otherwiſe healthy are forced ſometimes to complain of, particularly in gloomy weather. If the obſtructed perſpirable matter falls moſtly upon the lungs, then it produces a nervous aſthma; if it tends to the heart, a palpitation; if to the head, tinglings, thumpings, epilepſy, palſy, apoplexy; if upon the ſtomach, nauſea, vomiting, ſtinking breath; if it enters the coats of the veſſels, it cauſes gout, rheumatiſm, wandering pains, the ſolids become more and more relaxed, and the internal perſpiration is ſoon in the ſame ſtate. The inhaling veſſels are clogged and relaxed, which deprives the body of the neceſſary ſupplies of freſh air.

If perſpiration then is ſo neceſſary, any medicine that can procure a free perſpiration in every caſe whatever, muſt be of very conſiderable conſequence in phyſic. It is a very difficult thing, nay almoſt impoſſible, to procure a free perſpiration in ſome conſtitutions, and in moſt, it is very uncertain. Medicines are often given for that purpoſe, when they have only ſerved to heat the body and make it drier than it was before. Yet the powder which I have ſo often mentioned, if perſpiration is only required, will procure it from the crown of the head to the ſole of the foot, without heating the patient or fatiguing him in the leaſt. And every one at all acquainted with phyſic, muſt allow it to be a very uſeful diſcovery, if it had no other good effects, for by that it will remove many troubleſome complaints, as rheumatiſm, ſeveral kinds of fevers, and I have good reaſon to believe, the gout, &c. And at the ſame time it will prove a very good auxiliary in the cure of moſt diſeaſes.

Seeing then all diſeaſes ariſe from indigeſtion, obſtruction, obſtructed perſpiration and infection; let us now ſee how they are to be prevented or removed. If plenitude has the greateſt ſhare in producing diſeaſes, certainly evacuation muſt have the greateſt ſhare as remedies. Contraria enim contrariis vincuntur. As the ſtomach is nature's ſtore-houſe, great attention ought to be paid to it; it ought never to be filled too full, nor enjoined more labour than it is able to cope with. To illuſtrate my meaning by a ſimile. Let us ſuppoſe the ſtomach a beaſt of burden; we all know by experience, that no beaſt can continue always at work, and we likewiſe know, that we muſt proportion the load it is to carry to its ſtrength. Juſt ſo it is with the ſtomach, it cannot conſtantly perſiſt in action without a due proportion of reſt; neither can it convert into good chyle or wholeſome nouriſhment, a load of food unproportioned to its ſtrength. Therefore to prevent this fundamental evil, every one ought now and then to faſt a whole day, and at other times to eat with temperance, always making it a rule to riſe from the table with an appetite; for I believe we receive more hurt from the quantity than from the quality of our food. And if we happen at any time to tranſgreſs this rule, which ſhould ſeldom be the caſe, we ought then to faſt till we find that the ſtomach has recovered its due tone, and then to indulge it a day or two with only water gruel or chicken broth. In the choice of our food, experience is the beſt judge; we ſhould never ſuffer our appetite to tempt us to eat what we find to diſagree with us, or prove too much for the ſtomach to digeſt. To preſerve the harmony of the body, it is neceſſary to regulate all our appetites, and they, that will not do it, muſt ſubmit to the bargain they make, and take diſeaſes in exchange for health; and one time or other they will repent of their choice. At and after meals one may drink a moderate glaſs; but as the wine, in general, is ſo adulterated and poiſoned with heterogenious matter, pure ſpirits, well diluted with water and plenty of lemon, is the wholeſomeſt drink. To drink to a degree of intoxication is certainly very injurious to health, and a habit of drinking will break down the ſtrongeſt conſtitution. The ſtomach is the firſt thing that fails; for frequent debauches relax and impair its tone, and intoxication proceeds more from an affection of the ſtomach, than any effect the liquor has upon the blood. By obſerving theſe directions one will be ſeldom ill.

When theſe rules have been tranſgreſſed, and the perſon finds himſelf ill, our firſt care ought to be directed to the primæ viæ, and if the body is coſtive, a gentle opening medicine ſhould be taken or a clyſter injected; if the body is open and no ſickneſs at the ſtomach, the patient ſhould look up for aſſiſtance to the beſt phyſician in the world, I mean, kind Nature, who is always working for our relief, and would often work the cure, if not prevented by the injudicious and untimous aid of phyſic. When the perſon is ill, he ſhould faſt a day or two, and then live for a week or more upon a little water gruel, and after the firſt or ſecond day he may take two or three tea-ſpoons full of rum in a large baſon of tea, two or three hours before the times he uſes to get up, for then the ſkin is ſofteſt and moſt relaxed: it promotes perſpiration, which ought to be encouraged by lying in bed, and repeating the draught; if it fails the firſt day, perhaps it will ſucceed the ſecond, and when it does, the patient will ſoon get well: but if theſe methods fail, a gentle emetic and cathartic would be adminiſtered; if the complaint ſtill continues ſtubborn and will not yield, the perſon ought to repair to ſome medicinal water, or to the ſea (and medicine ſhould be the laſt thing he applies to) and try what they can do, for nature compounds medicines better than the moſt ſkilful phyſician or apothecary; if he finds no benefit from nature's ſhop, then the complaint is bad indeed, and ſome ſtubborn obſtructions are formed.

I MEAN only to apply theſe directions in ſlight caſes, and where the perſon was in health immediately before the attack; where the diſeaſe is of ſome ſtanding, and confirmed upon the conſtitution, theſe eaſy methods will not do, ſome artificial means muſt be made uſe of to open the obſtructions, which, as I have proved, are the cauſe of all diſeaſes, and expel the morbid matter by perſpiration.

THE moſt powerful deobſtruent, which, I believe, nature ever produced, is the powder which I have ſo often mentioned, and wiſh to recommend. It has wrought ſuch wonderful cures, and brings about ſuch a ſurpriſing change in the body, that I am certain, when it comes to be known, it will recommend itſelf, and be greedily ſought after; for wherever people, that are ill, ſee by experience that they can have relief, thither, no doubt, they will apply. So intimately are the component parts of this medicine mixed together, that a man is conſtantly at work upon them from morning till night, for pretty near two months before it is prepared, and then it is, perhaps, the moſt penetrating, and ſearching thing in nature.

If I might be allowed to ſuppoſe, from its virtues, its manner of operation, I would give the following account of it. I may very probably err in accounting for the manner in which it operates, but the facts I am ſure of, and that is enough for me, and will, I ſuppoſe, give the ſuffering patient all he wiſhes. It is capable of pervading the minuteſt ducts, and ſmalleſt veſſels, and of attacking the ſtagnant juices in the inmoſt receſſes of their lurking holes, and yet at the ſame time it is ſo mild and of ſo benign a nature as to be diveſted of all pungent acrimony. It's parts, though of all other medicines the moſt active, are ſheathed and inveloped by a ſoft innocent covering, which it never loſes, as I ſuppoſe, till in the courſe of circulation, it introduces itſelf into the obſtructed parts, the ſeat of action, where it is to exert its powers, which are excited to action from the reſiſtance the viſcid humour or obſtructed matter gives to its paſſage; then it begins to break through the offending matter, which it opens, attenuates, and divides and fits it to flow, and then it hurries along the impacted humour, and ſcours the glands and ſecretory ducts from all filth and dregs, by attenuating the matter which cauſed the diſorder; it breaks the edges of the ſalts and acrimony, and by abſorbing and incloſing them, renders them unable to tear and deſtroy the fine and delicate fibres; it thins and aſſimilates the juices even in the minuteſt and moſt remote veſſels, promotes excretion through all the emunctories, and I may venture to ſay, will remove, as far as is in the power of matter to effect, the moſt inveterate and chronic diſeaſe, ariſing from thickneſs or ſluggiſhneſs of the humours, and from obſtinate obſtructions of the excretory ducts; it abſorbs all acrimony. In ſhort, it relieves, cleanſes and unloads the whole animal ſyſtem, by carrying off the morbid matter by whatever outlet nature ſeems to direct. In two patients in the gout where it was given, the water, after taking it, was a turpid maſs, and ſo thick that you might have cut it with a knife; in one or two others, it operated by perſpiration. Though it is not a bracer, yet, by the judicious uſe of it, the tone of the parts is reſtored, and the whole animal frame receives ſtrength and vigour. It is of wonderful ſervice in all ſcrophulous and cutaneous diſeaſes; diſſolves cold tumours, by opening the pores and expelling the obſtructed matter by tranſpiration; it heals up ulcers both external and internal, and is a certain cure in aſthmas, conſumptions, king's evil, palſy, and fevers, even of the worſt kind. I have never diſcovered any hurtful effects from it, but have, upon every occaſion, experienced its excellent virtues, performed ſo wonderfully and ſo ſafely, that in the hands of a ſkillful phyſician, I may ſay, with much truth, that it will regulate and keep in order the whole animal oeconomy.

Perhaps the reader may think I have given a long catalogue of diſeaſes that are to be cured by the ſame medicine; which indeed is true, if he only regards the names, but if he conſiders the cauſes of diſeaſes, he will find I have not mentioned too many, and time will convince him of the truth of it. And whoever attends to what I have ſaid concerning the virtues of this medicine, and makes trial of it, will never have occaſion to repent; but if any perſon ſhould think all I have ſaid to be of no conſequence or ill grounded, he is welcome, and I ſhall not endeavour to perſuade him to the contrary. I know the foundation upon which, all I have ſaid, is built, and am certain it is a ſure one; therefore I am not ſollicitous what ſome people perhaps, for a time, may ſay of it; I know that ſplendid names may, for a while, ſupport miſtaken theory and practice, and may give a check at firſt to the progreſs of things of the greateſt conſequence, but error cannot long ſtand, it muſt at laſt come to the ground, and truth will at length break through the oppoſing ſhades, and ſhine with greater luſtre. The experience of ſome years has convinced me of the truth of this theory, and I am alſo as certain of the great efficacy of the medicine propoſed. Its ſurprizing effects are known to ſeveral, ſome of whom are ſo well ſatisfied of the truth of it, that they have ſpoke of it with the higheſt raptures at a foreign court, in conſequence of which, application was made from the ſame court, for the ſecret, and a very conſiderable reward offered, but I have not as yet conſented; and if I do, it will be with ſeveral conditions.

I AM ſo certain of its virtues and of the ſafety of its operation, that I deſire nothing where it fails, and am willing to give proof of its effects to any two or three whom the college of phyſicians or the royal ſociety ſhall appoint. I wiſh it to be no more regarded than it deſerves, yet I ſhould be ſorry to have it cried down or ſpoke againſt before it has been proved, but that is a piece of injuſtice I have no reaſon to expect from ſo generous a people as the Engliſh are; and I alſo know, that people that are ill wiſh to be well, and will apply to whatever means they know will procure it, when it is once made known unto them.

IT is the common fate of all new medicines to be often injudiciouſly applied, and their operation, from the ignorance of the giver, not being underſtood, the medicine is blamed and rejected as uſeleſs and of no merit, and incapable of doing what is ſaid of it, and what is really in its power to perform. Under theſe circumſtances, what credit can a medicine receive, or rather what diſgrace is it not like to meet with? therefore I have determined to give it with my own hand till ſuch time as its powers and virtues are fully proved to every perſon's ſatisfaction; and if the public will ſuſpend their judgments of it for a little time, they will ſee that it is no quack medicine of little or no virtue, which is attempted to be palmed upon the credulous. When its merit is fully eſtabliſhed, I ſhall then willingly diſpoſe of it in any way that appears likely to conduce moſt to the public good.

FINIS.